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Construction of buildings at certain military posts. Letter from the Secretary of War, relative to the construction of buildings at certain military posts

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H.R. Exec. Doc. No. 61, 47th Cong., 2nd Sess. (1883)

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47TH CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { EX. DOC. No. 61.

CONSTRUCTION OF BUILDINGS AT CERTAIN MILITARY POSTS.

LETTER

FROM

THE SECRETARY OF WAR,

RELATIVE TO

The construction of buildings at certain military posts.

JANUARY 26, 1883.—Referred to the Committee on Appropriations and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 25, 1883.

SIR: In compliance with the provisions of section 1136 of the Revised Statutes, I have the honor to transmit to the House of Representatives plans and estimates for the construction of buildings at the following military posts:

Hospital at Fort Leavenworth, Kans., to cost	$37,241 00
Post-office, school-room, &c., at Fort Leavenworth, Kans	10,304 67
Buildings at Fort Snelling, Minn	112,500 00
Buildings at Madison Barracks, Sackett's Harbor, N. Y	52,888 90
Buildings at Fort Wayne, Mich	54,071 65
Buildings, &c., at Fort Niobrara, Nebr	63,793 75

I also transmit a communication from General Howard, commanding the Department of the Platte, who urges an appropriation of $85,400 for the post of Fort Thornburgh, upon plans submitted during the last session of Congress, and $10,000 for completion of the road to the Union Pacific Railroad; estimate, $25,000, for completion of Fort Custer, Mont.; and estimate, $12,409.70, for repairs to buildings at Fort Douglas, Utah; total of new works now submitted, $378,209.67.

In transmitting these estimates, I beg to invite attention to the subject of buildings at military posts, as presented in the report of the General of the Army of October 16, 1882, and the papers therewith (copy inclosed).

With a view of discontinuing the practice of submitting special estimates to Congress during the session, instructions were given in August last for the preparation of all estimates for buildings at military posts, so that they could be included in the annual estimates. There was not sufficient time to prepare plans and detailed estimates before October 1, 1882, and the General of the Army, in addition to specific

estimates amounting to $681,859.48, on pages 155 and 156 of the estimate book, submitted an estimate of $1,000,000 for the enlargement and improvement of the interior posts; the total, $1,681,859.48, being intended to provide for all projects considered to be necessary during the fiscal year 1884.

A revised estimate has now been prepared, and is submitted herewith, showing the buildings at military posts for which provision should be made at the present session of Congress.

For a number of years a limited sum has been annually allotted from the appropriation for barracks and quarters in the army bill for construction and repair of buildings at the various posts, but that allotment has been sufficient only to provide for the most pressing wants of the service, leaving many applications which could not be granted.

The department is constantly pressed to urge appropriations for particular works, and the whole subject is now brought to the attention of Congress, in order that all the projects deemed necessary by the General of the Army may receive early and favorable consideration.

Very respectfully, your obedient servant,

ROBERT T. LINCOLN,
Secretary of War.

The SPEAKER
of the House of Representatives.

Revised estimates for buildings at military posts for fiscal year ending June 30, 1884.

Fortress Monroe, Va	$46,830 00
Atlanta, Ga	100,000 00
Fort Montgomery, N. Y	50,000 00
Fort Niagara, N. Y	30,000 00
Fort Colville, Wash	50,000 00
Rio Grande, below El Paso	200,000 00
Fort Bliss, Tex	50,000 00
Fort Huachuca, Ariz	52,000 00
Fort Grant, Ariz	60,000 00
Fort Vancouver, Wash	50,000 00
Fort Canby, Wash	9,859 48
Fort Lewis, Cal	40,000 00
Fort Selden, N. Mex	251,451 69
San Antonio depot approaches	3,500 00
Jefferson Barracks, Mo	24,938 44
Boise Barracks, Idaho	10,143 44
Fort Cœur d'Alene, Idaho	6,560 25
Fort Lapwai, Idaho	.....
Fort Klamath, Oreg	.....
Fort Walla Walla, Wash	38,163 62
Fort Halleck, Nev	.....
Fort Thornburgh, Utah, buildings and road	94,000 00
Fort Thomas, Ariz	30,000 00
Fort Apache, Ariz	61,000 00
Little Rock, Ark	33,160 00
Fort Leavenworth, Kans	47,545 67
Fort Custer, Mont	25,000 00
Fort Snelling, Minn	112,500 00
Fort Wayne, Mich	54,071 65
Madison Barracks, N. Y	52,888 90
Fort Douglas, Utah	12,409 70
Fort Niobrara, Nebr	63,793 75
Total	1,659,816 59

WAR DEPARTMENT, *January* 25, 1883.

No. 1.

HOSPITAL AT FORT LEAVENWORTH, KANSAS.

Estimate for hospital.

1,200 yards excavation, 30 cents	$360 00	
1,800 perch rubble-stone, 80 cents	1,440 00	
1,800 bushels lime, 30 cents	540 00	
9,000 bushels sand, 6 cents	540 00	
580 days, mason work, $3	1,740 00	
300 days, tenders, $1.50	450 00	
20 days, stone-setting, $3	60 00	
20 days, tender-setting, $1.50	30 00	
550 feet cut-stone, 80 cents	440 00	
120 days, cutting ashlar corners, &c., $3.50	420 00	
		$6,020 00
525 thousand brick, $9.50	4,987 50	
1,000 bushels lime, 30 cents	300 00	
4,000 bushels sand, 8 cents	320 00	
380 days, bricklayer, $5	1,900 00	
300 days, tender, $1.75	525 00	
		8,032 50
60 thousand lath, $4.50	270 00	
450 bushels Hannibal lime, 50 cents	225 00	
1,800 bushels sand, 10 cents	180 00	
140 bushels hair, 50 cents	70 00	
20 barrels plaster and cement, $3	60 00	
5 kegs lath-nails, 8 cents	40 00	
275 days, plasterer, $3	825 00	
167 days, tender, $1.50	250 00	
		1,920 00
95,000 feet rough lumber, $25	2,375 00	
200,000 shingles, $4.50	900 00	
16,000 feet yellow-pine flooring, $48	768 00	
45,000 feet finishing lumber, $55	2,475 00	
90 pairs 4-fold blinds, $12	1,080 00	
1,400 days, carpenter work, $2.75	3,850 00	
90 sets blind hinges and fastenings, 75 cents	67 50	
42 door locks and trimmings, $2.50	105 00	
		11,620 50
90 sets window-pullies, 35 cents	31 50	
90 sash trimmings, $1	90 00	
2,000 pounds guards and other iron-work, 10 cents	200 00	
4,800 pounds sash-weights, 3 cents	144 00	
30 kegs nails, assorted, $4.50	135 00	
Stair-rails, newels, and ballasters	200 00	
		800 50
1,800 feet tinning, 10 cents	180 00	
200 feet spouting, 20 cents	40 00	
Hooks and cut-offs	15 00	
		235 00
600 pounds sheet-lead, 9 cents	54 00	
1,800 pounds lead pipe, 8 cents	144 00	
100 feet cast-iron soil-pipe, 40 cents	40 00	
10 4-inch cast-iron bends, $1	10 00	
2 lead traps, $5	10 00	
60 pounds block tin, 25 cents	15 00	
2 urinals and connections, $10	20 00	
2 wash bowls and stands, $20	40 00	
2 14-ounce copper bath-tubs, $18	36 00	
1 boiler and stand, $22	22 00	
1 force-pump, $30	30 00	
2 Jennings water-closets with tanks, $84	84 00	
100 pr. tags, 8 cents	8 00	
20 finished brass cocks, $2	40 00	
1 kitchen sink, $15	15 00	

50 feet 3-inch ventilating pipe, 30 cents	$15 00	
8 plated bibs, self-closing, $4	32 00	
8 stop and waste-cocks, 50 cents	4 00	
100 feet stern pipe, 40 cents	40 00	
35 days, plumber, $4	140 00	
35 days, helper, $2	70 00	
		$869 00
40 boxes glass, $4	160 00	
200 pounds putty, 10 cents	20 00	
2,000 pounds white lead, 10 cents	200 00	
120 gallons oil, 80 cents	96 00	
40 gallons turpentine, 70 cents	28 00	
10 gallons Japan, $1	10 00	
		514 00
Brushes	25 00	
Miscellaneous paints	20 00	
200 days, painting, $2.75	550 00	
		595 00
Steam heating and ventilators		5,000 00
Incidentals		800 00
1 foreman, six months		750 00
		37,156 50

SURGEON-GENERAL'S OFFICE,
Washington, D. C., December 20, 1882.

Respectfully returned to the Quartermaster-General of the Army.

There is scarcely any balance remaining of the appropriation for construction and repair of hospitals for the current fiscal year, and even if the whole appropriation of $75,000 were available the sum necessary to construct this hospital, $37,241, could not be spared, as it would consume one-half of the entire appropriation, and pressing necessities of other posts would thereby be left unprovided for. Neither could this hospital be constructed out of the appropriation for the next year, even if an amount sufficient for the purpose were allowed, except under special authority of Congress; because the contemplated building would be of permanent nature and its construction prohibited by section 1136 Revised Statutes, which requires that all buildings and structures of a permanent nature, the cost of which exceed $20,000, shall be constructed only under special authority of Congress.

A building erected according to the plans inclosed would be well suited for the purposes intended and the estimated cost is not thought to be excessive. It is recommended therefore that the matter be submitted to Congress at an early day with the view of obtaining during the present session the necessary authority for the construction of the building and an appropriation for the purpose.

C. H. CRANE,
Surgeon-General, United States Army.

QUARTERMASTER-GENERAL'S OFFICE,
Washington, December 23, 1882.

Respectfully returned to the honorable Secretary of War, inviting attention to preceding indorsement of the Surgeon-General, in whose views and recommendations this office concurs.

ALEX. J. PERRY,
Acting Quartermaster-General, Brev. Brig. Gen. U. S. A.

HEADQUARTERS OF THE ARMY,
Inspector General's Office, December 20, 1882.

SIR: The following extract from a report of an inspection of Leavenworth military prison made December 6, 1882, by Colonel N. H. Davis, inspector-general, is respectfully furnished for your information.

Very respectfully, your obedient servant,

D. B. SACKET,
Brigadier and Inspector General.

* * * * * * *

HOSPITAL.

Attention is again respectfully invited to the occupation of a part of one of the prison buildings as a hospital for the post of Fort Leavenworth, and, recently, of one ward of the prison hospital for the same purpose, leaving but one ward thereof with a capacity for only twelve beds for the prison, containing, with the provost guard, six hundred men.

The prison is not the proper place for the post hospital. The accommodations are unsuitable and entirely inadequate for both the prison and the large garrison of this post.

The unavoidable intercourse between soldiers of the post and the convicts in the present condition of affairs is reported to be, as I believe it is, detrimental to the good order and discipline of the prison.

It is reported that patients in this post hospital go outside by permission of the hospital steward, returning late in the evening and at night, noisy and apparently under the influence of intoxicating drink. I found, as on a previous inspection, the police of the post hospital not good; the steward was absent. I reported this matter to the commandant (*ex officio*) of the prison, General Pope. The too crowded condition of the hospital in the prison building was given as the reason for taking one ward of the prison hospital. In the former was a citizen, for treatment of his eyes, who said he had been there some five weeks. In the event of an epidemic at the post, or the introduction of contagious diseases into the prison by prisoners who are sent there from different parts of the country, an unfortunate and embarrassing condition of things would exist in the absence of suitable and adequate hospital accommodation. In this connection it is respectfully suggested that the sick of the garrison of Fort Leavenworth should be removed from the military prison as soon as possible, and that a post hospital be built without unnecessary delay.

The police condition of parts of the dispensary and of the storeroom in the prison hospital was not up to the required standard that I have heretofore found them in my former inspections. Colonel Blunt requests that another hospital steward, an efficient one, be ordered to relieve the one now on duty here.

* * * * * * *

Very respectfully,

N. H. DAVIS,
Inspector-General United States Army.

The GENERAL OF THE ARMY
of the United States.

[First indorsement.]

Respectfully referred to the Quartermaster-General for remark.
By order of the Secretary of War,

JOHN TWEEDALE,
Chief Clerk.

WAR DEPARTMENT, *December* 29, 1882.

[Second indorsement.]

QUARTERMASTER-GENERAL'S OFFICE,
Washington, January 12, 1883.

True extract respectfully returned to the honorable Secretary of War with remark that plans, estimates, &c., for a new hospital were forwarded to him from this office December 23, 1882.

RUFUS INGALLS,
Quartermaster-General, Bvt. Maj. Genl., U. S. A.

No. 2.

BUILDING AT FORT LEAVENWORTH, KANS., FOR POST-OFFICE, SCHOOL-ROOM, &c.

OFFICE OF ACTING ASSISTANT QUARTERMASTER,
Fort Leavenworth, Kans., November 17, 1882.

SIR: I have the honor to transmit herewith, in duplicates, plan A, specification B, bill of material C, and estimates of civilian labor D, for construction of a building at this post,

to comprise a post-office, 1 section room, 2 school rooms (for enlisted men), 1 instrument and model room, 1 drawing room, 1 court-martial room, and an attic.*

Very respectfully, your obedient servant,

T. W. LORD,
First Lieut. and Regimental Quartermaster, Twentieth Infantry, A. A. Q. M.

The CHIEF QUARTERMASTER, DEPARTMENT MISSOURI,
Fort Leavenworth, Kans.

Through Post of Fort Leavenworth, Kans.

Specifications for a building at Fort Leavenworth, Kans., comprising post-office, 1 section room, 2 school rooms (for enlisted men), 1 instrument and model room, 1 drawing-room, 1 telegraphy room, 1 court-martial room, and an attic.

Building to be 64½ feet long, 45 wide, by 24 high, of brick, 2 stories, with slate roof, foundation to be of stone, to extend 6 feet below surface of ground and 2 feet above, to be ventilated by 4 barred windows; water-table and window-sills throughout, to be of dressed stone; first story to be 12 feet high, with wall 19 inches thick, with air-space; upper story to be 10 feet high, walls to be 13 inches thick; porches as per plan to cover side and end-doors; the hall walls of first story to be of brick, 13 inches thick; the hall walls of second story and other partition walls to be of wood, lathed and plastered; the continuation of hall wall fronting post-office to consist of wooden posts, 8 by 8, cased; building, including ceilings, to be plastered throughout and hard-finished; the side of post-office fronting on hall to be provided with glass front and wooden lock-boxes; lower floor to have 20 windows, and 3 outside and 3 inside single doors, and one pair folding doors between school-rooms; upper floor to have 22 windows, 4 inside doors, and 1 pair folding-doors between drawing and instrument rooms; attic to have 4 dormers with 8 windows; chimneys as shown by plan; both floors to be wainscoted; building to have 3 coats of paint throughout; stair-case from lower to upper floor as shown in plan.

Respectfully submitted.

T. W. LORD,
First Lieutenant and Regimental Quartermaster, Twentieth Infantry, A. A. Q. M.

FORT LEAVENWORTH, KANS., *November* 17, 1882.

Bill of material for construction of a building at Fort Leavenworth, to comprise a post-office, 1 section room (for school of application), 2 school rooms, (for enlisted men), 1 instrument and model room, 1 drawing room, 1 telegraphy room, 1 court-martial room, and an attic.

225	M brick laid in walls, at $14 per thousand	$3,150 00
435	perch stone laid in walls, at $3 per perch	1,305 00
208	feet water-table, at 45 cents per foot	93 60
3	door-sills, 5 feet, at $1.30 per foot	19 50
42	window-sills, 3 feet 6 inches, at 40 cents per foot	58 80
8	dormer window-sills, 3 feet, at 40 cents per foot	9 60
105	pieces 2 inches by 10 inches by 20 feet, 3,500 feet; 150 pieces, 2 inches by 6 inches by 14 feet, 2,100 feet; 105 pieces, 2 inches by 10 inches by 20 feet, 3,500 feet; 24 pieces, 3 inches by 12 inches by 20 feet, 1,440 feet; 20 pieces, 2 inches by 12 inches by 24 feet, 960 feet; 60 pieces, 2 inches by 10 inches by 20 feet, 2,000 feet; 16 pieces, 6 inches by 6 inches by 16 feet, 760 feet; 3 pieces, 8 inches by 8 inches by 14 feet, 224 feet; 100 pieces, 2 inches by 6 inches by 20 feet, 2,000 feet; total, 16,484 feet, at $23 per thousand	379 13
4,418	feet fence flooring for roof, at $30 per thousand	132 54
1,000	feet finishing lumber, at $40 per thousand	40 00
1,100	feet mouldings, at 4 cents per foot	44 00
1	stairway complete, with newel-post and rail	60 00
6,500	feet 4-inch yellow pine flooring, at $40	260 00
40	squares slate, laid on roof, at $14 per square	560 20
42	window-frames and casings, at $5.60 each	235 00
8	dormer windows and casings, at $4.90 each	39 20
3	door-frames, outside, at $8.30 each	24 90
7	door-frames, inside, at $8.30 each	58 10
2	folding-door frames, at $12	24 00
2	pairs folding doors, at $16	32 00
7	inside doors, at $2.60	18 20
10	transoms to doors, at $1.25	12 50
3	outside doors, at $2.60	7 80

*Designed and prepared by Lieutenant A. Reynolds, Twentieth Infantry.

42	windows, primed and glazed, at $2.50	$105 00
8	dormer windows, primed and glazed, at $2.50	20 00
	Sash cords and weights	75 00
2,275	yards plastering, 3 coats, at 22 cents	500 50
1,330	yards lathing, at 8 cents	106 40
1,666⅔	yards painting, at 30 cents	500 00

HARDWARE.

35	kegs nails, assorted, at $5	175 00
30	gross screws, at 25 cents	7 50
14	pairs hinges, loose pin, at 20 cents per pair	2 80
12	locks, with bronze trimmings, at $28 per dozen	28 00
50	window-fastenings, at 20 cents each	10 00
	Bolts and anchors	50 00
250	feet gutter-stick, at 7 cents	17 50
150	feet brackets, at 7 cents	10 50
	Galvanized iron (for hips, ridge gutters, and conductors)	50 00
	Total	$8,222 27

Respectfully submitted.

T. W. LORD,
First Lieutenant and Regimental Quartermaster, Twentieth Infantry, A. A. Q. M.

FORT LEAVENWORTH, KANS., *November* 17, 1882.

Estimate for civilian labor for construction of a building at Fort Leavenworth, Kansas, to comprise a post-office, 1 section room, 2 school rooms (for enlisted men), 1 instrument and model room, 1 drawing room, 1 telegraphy room, 1 court-martial room, and an attic.

Overseer 2 months at $100 per month	$200 00
13 carpenters 52 days, at $2.40 per day	1,622 40
5 laborers 52 days, at $1 per day	260 00
	2,082 40

Stone foundations and brick-work included in bill of material.

Respectfully submitted.

T. W. LORD,
First Lieutenant and Regimental Quartermaster, Twentieth Infantry, A. A. Q. M.

FORT LEAVENWORTH, KANS., *November* 17, 1882.

[First indorsement.]

POST OF FORT LEAVENWORTH, KANS., *November* 20, 1882.

Respectfully forwarded to Headquarters Department of the Missouri. Approved.

J. J. UPHAM,
Major Fifth Cavalry Commanding.

[Second indorsement.]

HEADQUARTERS DEPARTMENT OF THE MISSOURI,
Fort Leavenworth, Kans., November 22, 1882.

Respectfully forwarded to the Adjutant-General of the Army, through Headquarters Military Division of the Missouri, approved.

This building is intended to supply a long-felt want at this post; and it is, I think, of great importance that it should be erected.

I respectfully request that the plan and estimates receive prompt and favorable action by the authorities through whom they are transmitted, and be laid before Congress at as early a day as possible asking for the necessary appropriation. If this be done I think I can secure favorable action on the part of the Senators and Representatives from this State.

JOHN POPE,
Major-General Commanding.

[Third indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
OFFICE CHIEF AND DEPOT-QUARTERMASTER,
Chicago, Illinois, November 29, 1882.

Respectfully returned to the adjutant-general of the division, recommending reference for action of War Department.

CHAS. H. TOMPKINS,
Asst. Quartermaster-General, U. S. A., Chief Quartermaster.
By G. W. CANDEE,
Major and Paymaster, U. S. A.

[Fourth indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
Chicago, December 1, 1882.

Respectfully forwarded to the Adjutant-General of the Army. In the absence of the Lieutenant-General commanding.

R. WILLIAMS,
Assistant Adjutant-General.

[Fifth indorsement.]

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, December 5, 1882.

Respectfully referred to the Quartermaster-General for remark.
By order of the Secretary of War.

R. C. DRUM,
Adjutant-General.

[Sixth indorsement.]

QUARTERMASTER-GENERAL'S OFFICE,
Washington, December 22, 1882.

Respectfully returned to the honorable Secretary of War through Adjutant-General U. S. A.

From fourth indorsement hereon it appears that the Lieutenant-General was absent at the time these papers passed through his headquarters.

The plans herein being suitable for the purpose intended, I recommend approval, provided, on reference of the papers to the General of the Army he thinks a permanent structure of the character named necessary.

RUFUS INGALLS,
Quartermaster-General, Bvt. Maj. Gen. U. S. A.

[Seventh indorsement.]

HEADQUARTERS OF THE ARMY,
Washington, December 26, 1882.

Respectfully submitted to the honorable Secretary of War.

I want to favor every proposition which will make Fort Leavenworth what it should be, a permanent and model military post. I am willing to approve of the erection of the building herein designed for such uses as may hereafter be found economical and necessary, but not to be designated or set apart for a post-office. With this qualification I approve it, and recommend thet the papers be sent to the Military Committee of the House.

W. T. SHERMAN,
General.

No. 3.

PLANS AND ESTIMATES FOR BUILDINGS AT FORT SNELLING, MINN.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Fort Snelling, Minn., December 11, 1882.

SIR: In obedience to verbal instructions from the Lieutenant-General commanding, I have caused to be prepared plans and estimates for the conversion of Fort Snelling into a post capable of accomodating a complete regiment of infantry. And inasmuch as since I received the Lieutenant-General's instructions a mounted battery of artillery has been

added to the garrison of the post, I have added plans, &c., for the additional barrack and quarters, the stables, gun-shed, &c., needed by it.

I forward these plans and estimates herewith, and I submit the following explanation of the work which is proposed:

COMMANDING OFFICER'S QUARTERS.

The commanding officer's house at present is a stone building one story in height, with a very low attic, and with a kitchen in the cellar. It has nominally four rooms on the principal floor, but in reality there are but two rooms which should be counted, for the two others are too small to be assignable. Neither can the kitchen be considered an assignable room, for it is in the cellar. The house is entirely inadequate for the necessities of an officer commanding a large post. But the walls are in excellent condition, amply strong enough to support another story, and it is therefore proposed to raise the attic and build up the walls so as to give two full stories beside the attic. The estimated cost of this change, as of all other changes proposed, will be found in the detailed estimates submitted. (See plan and estimate marked D.)

QUARTERS FOR FIELD OFFICERS.

One new set of field officers' quarters has just been completed; it is of wood, but very substantially and thoroughly built. It was intended for and is now occupied by the post surgeon.

It is proposed to build two additional sets upon the same plans and of the same material, one of them for a lieutenant-colonel, the other for a major. (See plan and estimate marked E.)

QUARTERS FOR COMPANY AND REGIMENTAL STAFF OFFICERS, ONE ASSISTANT SURGEON, AND A CHAPLAIN.

For the company and regimental staff officers, an assistant surgeon, a chaplain, and the officers of the battery, thirty-eight sets of quarters are required.

There are now six sets in the stone block next to the commanding officer's house, and sixteen sets in eight double detached wooden buildings, thus leaving sixteen new sets to be constructed.

The walls of the stone block next to the commanding officer's house are thick, well constructed, and in good condition; but the wood work of the interior and of the roof is very old and so much decayed that the quarters are really unfit for occupation. It is proposed to remove all this woodwork and remodel the interior, and in the place of the present low roof, which gives no space for attic rooms, to put a mansard of moderate height. The entire removal of the woodwork of this building is a necessity. (See plan and estimate marked H.)

The eight detached wooden buildings, containing sixteen sets of quarters, were built hurriedly in 1878, when there was a pressure for additional shelter for the troops in the department and very little money to build with. Undoubtedly they are as good as could have been built for the means then available, but they are of small size, with thin walls and no cellars. They rest on wooden piles, which are now decaying. Cellars are absolutely necessary to comfort and convenience in this climate. It is proposed to add to each set one room, with an attic above, and under this room to put a cellar. It is also proposed to put in proper underpinning and to put the buildings in thorough repair. (See plan and estimates marked G.)

For the sixteen additional sets of quarters required it is proposed to erect eight double cottages substantially on the plans published by the Quartermaster-General, September 14, 1872, with, however, the addition of an attic over the kitchen and with a cellar.

QUARTERS OF THE NON-COMMISSIONED STAFF.

The non-commissioned staff of the regiment and of the post, including the leader of the band, are now quartered in old and worthless buildings, which it will be necessary to remove in case the proposed enlargement and conversion takes place. It is therefore proposed to erect three small cottages, each containing two sets of quarters, for the non-commissioned staff, &c. (See plan and estimates marked K.)

BARRACKS.

The barracks at present occupied by the companies are: First, one wooden building of two stories, erected in 1878, into which are crowded four infantry companies and the

band; and, second, one stone building of one story, in which is quartered the battery of artillery.

This last-named building is old; it probably dates from the foundation of the post; the wood work is worn out and rotten, and it is reported to me that the walls are insecure. It is not worth repairing and should be torn down.

The wooden building put up in 1878 was erected under the pressure for shelter and with the scarcity of funds which has already been spoken of. Through no fault of the officers charged with its construction, but as a result of the circumstances existing when it was constructed, it is not in any respect a suitable building for the purposes of a post designed to be permanent. It was a *make-shift*. I have sought to devise some plan by which it could be transformed into a suitable barrack, but I have failed to discover any means of accomplishing that end. I have come to the conclusion that it would be best, and in the end cheapest, to pull it down and use the material in the construction of other buildings. It is therefore proposed to erect as barracks twelve buildings upon the plans published by the Quartermaster-General September 14, 1872; ten of these buildings to be for the ten companies of a regiment of infantry, one for the band, and the remaining one for the battery. (See plan and estimate H.)

BUILDING FOR OFFICES, &C.

The building now occupied as offices, post library, reading room, &c., affords miserable and utterly insufficient accommodations, and is, moreover, in a very decayed state. I have examined it with reference to its enlargement by the construction of another story, but I have found the walls to be in such condition that it would be unsafe to impose any additional weight upon them. It should be pulled down and the materials which it contains should be used in new constructions. I therefore propose a new building to contain the offices of the post, reading and library rooms, and a court room. The want of a court room has been much felt. (See plan and estimate marked I.)

HOSPITAL.

The present post hospital is a good building and is in excellent repair.

It is now receiving some additions, and when they are completed it will contain twenty-four beds. This number of beds is ample for the present garrison, but I am advisod by the medical director of the department that it would be insufficient for a regimental post. It is therefore proposed to add a ward with space for twelve beds. (See plan and estimate marked M.)

STOREHOUSES.

There is now at the post one storehouse, an excellent building of stone. It affords rather scanty accommodation for the quartermaster's stores and the subsistence stores for a garrison of the present size. It would be entirely insufficient for the stores required by a garrison of the size proposed. It is therefore proposed to turn this storehouse over entirely to the subsistence department and to build a new quartermaster's storehouse. (See plan and estimate marked B.)

BAKERY.

The present bakery is a good but small building; it would be insufficient for the proposed garrison, and unfortunately it is so planned and so situated that it cannot be enlarged. A new building is therefore proposed. (See plan and estimate marked C.)

ARTILLERY STABLES AND GUN-SHED.

There are no stables at the post available for the horses of the light battery, and there is no gun-shed. I have heretofore represented the necessity of new buildings for these purposes and have sent forward plans and estimates. I now include these buildings in the general plan of enlargement, and I append copies of the former plans, &c. (See estimates and plans marked L.)

WATER CLOSETS, FUEL SHEDS, FENCING, REMOVING CEMETERY, LAYING DOWN WALKS, GRADING, BUILDING ROADS, AND REMOVING RUBBISH.

For the estimate for these purposes see inclosure marked N. In order to make room for new buildings it is proposed to remove the cemetery to a distant point of the reservation and to cut down the elevation it now occupies.

It is also proposed to grade a drill-ground of sufficient size to permit the maneuvering of a regiment of infantry and of a battery of artillery.

The whole estimate is larger than I expected it to be, but it has been, I think, carefully made, and should the sum asked for be granted it can be expended to the great advantage of the service.

I have the honor to be, very respectfully, your obedient servant,

ALFRED H. TERRY,
Brigadier-General Commanding.

To the ADJUTANT-GENERAL,
Of the Military Division of the Missouri, Chicago, Ill.

[Second indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
OFFICE CHIEF AND DEPOT QUARTERMASTER,
Chicago, Ill., December 21, 1882.

Respectfully returned to the adjutant-general of the division with recommendation that these plans and estimates be forwarded for the action of the War Department, and that the present Congress be asked for an appropriation for the purpose, and if an appropriation is made it be expended under the direction of the Lieutenant-General commanding; and I recommend further that if the sum appropriated is sufficient for the purpose (and I am positive $250,000 will be), that new buildings of brick be erected for the ten companies of infantry and battery of artillery, and a new site be selected if in the opinion of the Lieutenant-General it is deemed more desirable to erect new buildings than to repair old ones.

CHAS. H. TOMPKINS,
Assistant Quartermaster-General, U. S. A., Chief Quartermaster.

[Third indorsement.]

HEADQUARTERS MILITARY DIVISION MISSOURI,
Chicago, January 3, 1883.

Respectfully forwarded. I am familiar with the old post of Fort Snelling. It is on a point of land jutting out from the bluffs at the junction of the Minnesota and Mississippi rivers. It is a very old place, built originally with the idea of defense against Indians, and, in my opinion, is too contracted for an increased garrison. Near by there is a beautiful, commanding site on the reservation, offering every facility for such a garrison as is proposed. I feel, and so does the chief quartermaster of the division, that for the money called for in these papers for the building up of the old post a new post constructed of brick and complete in all its appointments for twelve companies can be constructed, and I think it would be wisdom to make this change in making the appropriation.

P. H. SHERIDAN,
Lieutenant-General, Commanding.

[Fourth indorsement.]

HEADQUARTERS OF THE ARMY,
Washington, January 9, 1883.

Respectfully submitted to the honorable Secretary of War.

Fort Snelling has long been, is now, and ever must be "strategic," a proper place for the assemblage of troops and war material bearing upon our northern frontier.

I advise that these papers be transmitted to the proper committee of Congress, with a request for a special appropriation of $112,500 (one-half the amount asked for); the $12,500 to be expended in the needed repairs inside the old fort, and the remaining $100,000 for building permanent barracks of brick and stone on the public land outside the fort on a plan capable of being enlarged to the full extent of a regiment of infantry, the exact location to be approved by the Secretary of War.

W. T. SHERMAN,
General.

Abstract of estimates, with plans, for structures required at Fort Snelling, Minn., to accommodate a full regiment of infantry and one light battery of artillery.

Name of structures.	Letter designating plan and detailed estimate.	If new building.	If old building requiring additions.	No. of each building required.	Estimated cost of each.	Total cost.	Remarks.
Barracks	A	Yes.	.....	12	$6,182 50	$74,190 00	
Quartermaster's storehouse	B	Yes.	.....	1	3,821 50	3,821 50	
Bake-house	C	Yes.	.....	1	4,636 00	4,636 00	
Commanding officer's quarters	D	.....	Yes.	1	5,203 00	5,203 00	Old.
Field officers' quarters	E	Yes.	.....	2	5,700 00	11,400 00	
Company officers' quarters	F	Yes.	.....	8	5,289 00	42,312 00	
Company and field officers' quarters	G	.....	Yes.	8	2,132 00	17,056 00	Frame, old.
Company officers' quarters	H	.....	Yes.	6	2,986 19	17,917 14	Stone, old.
Administration building	I	Yes.	.....	1	12,713 00	12,713 00	
Non-commissioned staff officers' quarters.	K	Yes.	.....	3	2,961 50	8,884 50	
Artillery stables, gun-shed, and corral	L	Yes.	.....	1	10,306 90	10,306 90	
Addition to hospital	M	.....	Yes.	1	2,654 00	2,654 00	Old.
Water-closets, fuel-sheds, fencing, grading, and removing rubbish, &c.	N	.....	.....	.....	.....	13,905 96	
Total	.....	.....	.....	.....	.....	225,000 00	

Respectfully submitted.

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

OFFICE ASSISTANT QUARTERMASTER,
HEADQUARTERS DEPARTMENT OF DAKOTA,
Fort Snelling, Minn., December 2, 1882.

A.

Estimate of barracks.

Excavators, 316 yards, at 25 cents	$79 00
Stone-work, 200 perches, at $3	600 00
Chimney, 60 feet, at $1	60 00
Brick lining, 38 M, at $12	456 00
Lumber, 20 M, at $30	600 00
Sheathing, 20 M, underfloors, roofing, &c., at $25	500 00
Siding, 7 M, at $45	315 00
Shingles, 37 M, at $450	166 50
Cornice, 400 feet, at 50 cents	200 00
Porches, 268 feet, at $2	536 00
Flooring, 16 M (2-inch matched plank), at $30	480 00
Thirteen inside doors, at $11	143 00
Eleven outside doors, at $18	198 00
Fifty-two windows, at $12	624 00
Stairs	100 00
Plastering, 1,900 yards, at 25 cents	475 00
Base	100 00
Tin-work	200 00
Painting	350 00
Total	6,182 50

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

B

Estimate of storehouses.

Excavation, 408 yards, at 25 cents	$102 00
Stone-work, 266 perches, at $2.75	731 00
Chimneys, 26 feet, at 75 cents	19 50
Lumber, 25 M, at $30	750 00
Roof-boards, sheathing, &c., 10,700 M, at $25	267 50
Shingles, 57 M, at $4.50	256 50
Sheathing (inside), 9 M, at $35	315 00
Siding, 7 M, at $45	315 00
Platform and stoop outside	100 00
Flooring (2-inch matched plank), 5 M, at $30	150 00
Four large doors, at $15	60 00
Two single outside doors, at $12	24 00
Two single inside doors, at $10	20 00
Four cellar windows, at $5	20 00
Twenty-three windows, at $12	276 00
Stairs to cellar	15 00
Fixtures in issuing-room	100 00
Painting	300 00
	3,821 50

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

C.

Estimate of bake-house (independent of oven).

Excavations, 160 yards, at 25 cents	$40 00
Stone-work, 309 perch, at $3	927 00
Chimneys above oven, 24 feet, at $1.50	36 00
Lumber, 10 M, at $30	300 00
Roof-boards, 3 M, at $25	75 00
Shingles, 30 M, at $4.50	135 00
Floor (of brick), 9 M, at $12	108 00
Two outside doors, at $18	36 00
Two inside doors, at $12	24 00
Nine windows, at $10	90 00
Base	25 00
Plastering, 360 yards, at 25 cents	90 00
Tin-work	75 00
Painting	175 00
	2,136 00
Bake-oven complete	2,500 00
	4,636 00

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA.
Office Assistant Quartermaster.

D.

Estimate of commanding officer's house for additional story.

Taking down present roof, &c., and removing partition in second story	$200 00
Stone-work (second story), 242 perch, at $4.50	1,089 00
Chimneys, 150 feet, at $2.50	375 00
Lumber, 20 M, at $30	600 00
Flooring, 4,800 feet, at $50	250 00
Bay window	150 00
Balcony	50 00
Six double dormer windows, at $30	180 00
Two gables, at $40	80 00
Eighteen inside doors, at $15	270 00
Two double windows, at $25	50 00
Eight single windows, $18	144 00
Stairs	200 00
Changing of plumbing	50 00
Plastering, 1,500 yards, at $25	375 00
Base wainscoting	150 00
Closet fixtures	100 00
Tin work, &c	300 00
Painting	600 00
	5,203 00

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

E.

Estimate for field officers' quarters.

Excavations, 580 yards, at 25 cents	$145 00
Stone-work, 375 perch, at $3.00	1,125 00
Cementing cistern	42 50
Ash-pits	60 00
Lumber, 23 M feet, at $30	690 00
Roof-boards, sheathing, and paper	300 00
Shingles, 40 M, at $4.50	180 00
Siding, 6 M feet, at $45.00	270 00
Cornice, 250 feet, at 25 cents	62 50
Porch	150 00
Flooring, 6 M feet, at $40	240 00
Two stoops, at $60	120 00
Chimneys, 25 feet, at $1	250 00
Two front doors, at $30	60 00
Two vestibule doors, at $25	50 00
Four outside doors, at $10	40 00
Two folding doors, at $25	50 00
Forty-two doors, at $8	336 00
Thirty windows, with blinds, at $10	300 00
One flight front stairs	150 00
Two flights back and cellar stairs, at $50	100 00
Base and inside finish	179 00
Plastering	400 00
Tin-work	100 00
Painting	300 00
	5,700 00

CHAS. BIRD.
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

F.

Estimate for double houses for company officers quarters.

Excavations, 580 yards, at 25 cents	$145 00
Stone-work, 325 perch, at $3	975 00
Cementing cistern	22 50
Ash-pits	60 00
Lumber, 23 M feet, at $30	690 00
Roof-boards, sheathing, and paper	300 00
Shingles, 30 M, at $4.50	135 00
Siding, 6 M feet, at $45	270 00
Cornice, 250 feet, at 25 cents	62 50
Porch	138 00
Flooring, 6 M feet, at $40	240 00
Four stoops, at $15	60 00
Chimneys, 205 feet, at $1	205 00
Two front doors, at $30	60 00
Two vestibule doors, at $25	50 00
Four outside doors, at $10	40 00
Two folding doors, at $25	50 00
Forty-two doors, at $8	336 00
Thirty windows, with blinds, at $10	300 00
Two flights front stairs, at $75	150 00
Two flights back stairs, at $50	100 00
Base	100 00
Plastering	400 00
Tin-work	100 00
Painting	300 00
	5,289 00

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

G.

Estimate double houses remodeled and enlarged.

Excavation cellar under new parts, 300 yards, at 35 cents	$105 00
Stone-work, 200 perch, at $3	600 00
Raising up building	50 00
Lumber, 4 M feet, at $30	120 00
Sheathing and roof-boards, 4 M feet, at $25	100 00
Shingles (entire roof new), 38 M, at $4.50	171 00
Siding, 2,000 feet, at $45	90 00
Cornice, 72 feet, at 50 cents	36 00
Porches	40 00
Changing partition inside and stairs	50 00
Flooring, 1,500 feet, at $50 per M	75 00
Ten new doors, at $10	100 00
Ten new windows, at $12	120 00
Base	50 00
Plastering, 700 yards, at 25 cents	175 00
Tin-work	50 00
Painting, new work 3 coats, old work 2 coats	200 00
	2,132 00

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

H.

Stone row, six houses, additional story. Estimate for single house.

Excavations for area, 90 yards, at 40 cents	$36 00
Area walls, 38 perches, at $2.50	95 00
Chimneys, 80 feet, at $2	160 00
Lumber for partitions, roof, &c., 10 M, at $30	300 00
Roof boards, 2,864 feet, at $28	80 19.2
Shingles, 15 M, at $4.50	67 50
Porch	50 00
Flooring, 5 M, at $40	200 00
Tearing down partitions, chimneys, &c	50 00
Doors, inside, 25, at $15	375 00
Four dormer windows, at $30	120 00
Four dormer windows, at $20	80 00
Repairing windows	50 00
Stairs	250 00
Dumb waiter	40 00
Closet fixtures and base	100 00
Plastering, 2,130 yards, at 25 cents	532 50
Tin-work	200 00
Painting	200 00
	2,986 19.2

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

I.

Estimate of administration building.

Excavations, 740 yards, at 25 cents	$185 00
Stone-work (including ash-pits), 657 perches, at $3	1,971 00
Chimneys, 250 feet, at $2	500 00
Brick lining, 35 M brick, at $12	430 00
Grouting cellar bottom 554 yards, at 75 cents	415 50
Plumbing and cess pools	500 00
Lumber, 68 M feet, at $30	2,040 00
Sheathing under floors and roofing, 27 M, at $25	675 00
Shingles, 46 M, at $4.50	207 00
Siding, 10 M feet, at $45	450 00
Four trusses, at $50	200 00
Two gables	50 00
Cornice, 290 feet, at 50 cents	145 00
Two dormer windows	35 00
Porch and side stoop	200 00
Flooring, 12 M feet, at $50	600 00
Front doors	40 00
One side door	20 00
Thirty-four inside doors, at $15	510 00
Forty-five windows, at $15	675 00
Stairs	250 00
Closet fixtures	50 00
Base board	200 00
Plastering, 4,500 yards, at 25 cents	1,125 00
Tin-work, roofs, gutters, pipes, &c	500 00
Painting	750 00
	12.713 00

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

K.

Estimate of cost of double house, non-commissioned staff officers' quarters.

Excavations, 150 yards, at 25 cents	$37 50
Stone-work, 200 perches, at $3	600 00
Cementing cistern	30 00
Chimneys (to start on brackets), 70 feet, at 75 cents	52 50
Lumber, 30,000 feet, at $30	900 00
Sheathing, roof-boards, &c., 5,000 feet, at $25	125 00
Shingles, 18,000, at $4.50	81 00
Siding, 2,500 feet, at $45	112 50
Flooring, 2,200 feet, at $40	88 00
Porch	25 00
Gable	20 00
Thirty-five doors, at $10	350 00
Twenty-two windows, at $10	220 00
Stairs	75 00
Plastering, 400 yards, at 25 cents	100 00
Tin-work	25 00
Painting	100 00
	2,961 50

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

L.

Estimate of cost of stable building.

Excavations, 144 yards at 35 cents	$50 40
Stone-work, 580 perch at $3	1,740 00
Filling up with clay	40 00
34 window-sills, at $1.50	51 00
4 pair sliding-doors, at $25	100 00
34 windows, sash to slide in pocket, including sliding blinds, at $10	340 00
Lumber, including work, 24 M, at $30	720 00
Roof boards, including work, 8 M, at $30	240 00
Shingles 73 M, at $5	365 00
Ridge ventilators, flaps, cords, &c	80 00
2 doors to forage rooms, at $10	20 00
62 hooks for harness, at $1.50	93 00
Cast-iron mangers	160 00
Hoop-iron on top of stable partitions	40 00
	4,039 40

Estimate of cost of gunshed.

Excavation, 150 yards, at 35 cents	$52 50
Stone-work, 150 perch, at $3	450 00
55 M feet lumber framed, at $30	1,650 00
10 M feet roof boards, at $30	300 00
10 M feet ceiling boards, inside, at $35	350 00
6 M feet siding, outside, at $40	240 00
Paper	40 00
91 M shingles, at $5	455 00
Floor in gunshed, 3,500 feet, at $30	105 00
Floor in balance of rooms, 4,500 feet, at $40	180 00
4 sliding doors, at $25	100 00
1 double door	20 00
4 single doors, at $12	48 00
20 double doors, gunshed, at $25	500 00
Iron-work for trusses, &c	100 00

9 windows, with weights, at $15	$135 00
4 windows, with weights, at $10	40 00
4 windows, with weights, at $8	32 00
4 box stalls (for sick animals), at $25	100 00
2 chimneys, 5 M brick, tin, &c., at $15	75 00
Ventilation-shafts, &c., of stables	50 00
4 mangers, at $5	20 00
Medicine-chest	25 00
Painting	500 00
Harness-hooks in harness-room	75 00
	5,642 50

Estimate of cost of open sheds and stone walls around.

Stone wall, 8 feet high, 20 inches thick, 100 perches, at $3	$300 00
5 double doors, all complete, at $25	125 00
4 open sheds, shingle roof	200 00
	625 00

RECAPITULATION.

Estimate cost of stable building	$4,039 40
Estimate cost of gunsheds	5,642 50
Estimate cost of open sheds, with stone wall around	625 00
	10,306 90

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

M.

Estimate for the construction of an additional ward to the post hospital at Fort Snelling, Minn.
Estimate for twelve-bed ward to hospital.

6,000 feet dimension lumber	$120 00
5,000 feet sheathing boards	100 00
2,500 feet siding	65 00
4,500 feet 3-inch flooring	147 00
1,000 feet finish lumber	35 00
24 M XX shingles	96 00
12 windows, at $10	120 00
7 windows, at $3	21 00
5 doors, at $8	40 00
500 yards plastering, at 30 cents per yard	150 00
100 yards excavating	45 00
80 perches stone laid in wall	200 00
Painting	150 00
Carpenter-work	300 00
Nails and hardware	50 00
Chimney	65 00
	1,704 00
Plumbing and tinning	500 00
Cistern, with force-pump and pipe	300 00
Grading	150 00
Total	2,654 00

G. PERIN,
Surgeon, U S. A., Medical Director.

HEADQUARTERS DEPARTMENT DAKOTA,
Medical Director's Office, November 29, 1882.

N.

For water-closets and fuel-sheds for new part of post, allowing one of each to new barrack buildings, set of officers' quarters, non-commissioned staff quarters, and administration building, thirty-seven in all, at $150 a piece	$5,550 00
Fencing for twenty-five sets of officers' and non-commissioned officers' quarters, at $65	1,625 00
Removing cemetery and building new fences	900 00
Walks at post	900 00
Grading, building roads, and removing rubbish	4,930 96
	13,905 96

CHAS. BIRD,
Captain and Assistant Quartermaster, U. S. A.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Office of Assistant Quartermaster.

BUILDINGS AND WATER-WORKS AT MADISON BARRACKS, SACKETT'S HARBOR, NEW YORK.

OFFICE ACTING ASSISTANT QUARTERMASTER,
Madison Barracks, New York, December 11, 1882.

SIR: In compliance with directions of the post commander I have the honor to submit herewith plans and estimates for supplying this post with water, for erecting a building for offices, school, and library, for raising company barracks so as to make attics available as dormitories, for erecting kitchens and bath-rooms to officers' quarters west of sally-port, and for raising rear buildings of east row of officers' quarters so as to make bath-rooms. I also return herewith proceedings of a board of officers convened to recommend system of water supply.

The estimate for water supply includes the building of engine-house, laying of 6-inch mains, joined by lead, to all parts of the garrison, connections with all the buildings by 1½-inch pipe, placing of fire hydrants, and furnishing of hose and hose-reels; it also includes the digging of a sewer back of the west set of enlisted men's barracks, to complete the drainage of that portion of the post. A great portion of the expense on this estimate is due to the necessity of laying the pipes four feet below the surface. All the excavation for this purpose will be in hard rock, which reaches to within six or eight inches of the surface. The necessity for early and favorable action in this matter is evident, as no improvement has been made in supplying the post since the convening of the board whose proceedings are inclosed. A garrison of headquarters, band, and six companies is still supplied by tank on wheels, from which water is carried into the quarters in buckets. Any mishap to this tank or pump would necessitate the carriage of the water by hand from the now frozen lake. The estimate above referred to does not contemplate the erection of a water-tank, all authorities here claiming that a tank would not stand the intense cold. It is proposed to pump directly into the mains, having escape-valves to relieve overpressure, somewhat after the Holly system.

The estimate for the building for offices, school, and library is rendered necessary, as there is no building here for the purpose, nor one that could be used as such. The offices, school, library, and chapel are now occupying two sets of officers' quarters which are very much needed for officers and which would be indispensable when officers now absent rejoin. Even as it is the quarters are overcrowded.

The estimate for raising company barracks is made necessary by the overcrowding of the enlisted men, many of them being compelled to sleep in the attics, with insufficient air space. Some such change is very necessary, not only as more economical than building L's to the quarters, but as it has become apparent that the floor-rafters, roof-plates, and many parts of the roofs, the timbers of which have not been replaced since 1819, are so rotten as to render the laying of new ones necessary in the near future.

The estimate for building kitchens and bath-rooms to the west set of officers' barracks is to replace the wooden sheds, which are in a most ruinous condition and uninhabitable during the winter season. These sheds are built of timber and are but "lean-to's;" they are so old as to be unrepairable, and the connections from the kitchen ranges through the wood-work to the tumble-down chimneys built on the outside is a source of great danger from fire. This estimate also contemplates furnishing each set of quarters with bathing facilities, a necessity at every post; at present there is not a bath-room at the post other than those partitioned off in the enlisted men's barracks, into which water

has to be carried by hand. The building of these kitchens is absolutely necessary, as the wooden sheds will fall down, if they are not destroyed by fire, before the end of next season.

Estimates for raising the second story of the west set of officers' barracks have not been made; they will, however, be forwarded if required. The cost will be about $5,000. The prices of material and labor in these estimates have been obtained from builders and merchants in this vicinity, and are the ruling prices at this date.

Very respectfully, your obedient servant,

W. W. WOTHERSPOON,
First Lieutenant and Assistant Quartermaster, Twelfth Infantry.

[First indorsement.]

MADISON BARRACKS, N. Y., *December* 13, 1882.

Respectfully forwarded. Approved; and early action as can be secured is recommended.

The plans, &c., for these repairs and additions have received the most careful and prolonged attention, and are judged to be the most economical and practicable that from all our sources of information we can present, after the subject has been gone over repeatedly by post commanders, inspectors, and boards of officers.

The first thing in order of importance and safety is the water supply; the rest follows for health and convenience.

With reference to the quarters it will be considered that nearly one-half of the year at this post is cold weather, and that the barracks as they stand are for the most part old, dilapidated, and inconvenient, and must in any event be repaired for the present garrison, which is the smallest that should be assembled for the twofold object of regimental instruction and readiness for service against a mob in any of our Eastern cities at short notice.

The new building for the staff and for courts-martial, school, and chapel is highly necessary for the convenience and wants of the service.

At present there are no offices for the commanding officer or any of his staff, who, with the clerks, are cramped up in quarters and barracks needed for the troops.

The administrative building, the increase and repair of quarters for men and officers, the water supply, and the drainage, water and bath closets, in fact all that we ask for, is only what would be required at any post for such a garrison as the present.

The old row of officers' quarters should likewise be raised. I think it can be done for $5,000 on the plan of the new row. It would be most economical to do the whole job together.

Hereafter, if desired, I will present a plan for increasing the capacity of the post for four more companies, Madison Barracks having been designated by the General of the Army for a whole regiment in his last annual report.

The present plans and estimates would facilitate any such object. We should then have ten companies together for immediate service.

The amount now requested to be appropriated for immediate necessities is $52,000, or including the raising of the western row of officers' quarters, $57,000.

O. B. WILLCOX,
Colonel Twelfth Infantry, Bvt. Maj. Gen. U. S. A., Commanding.

[Second indorsement.]

DECEMBER 15, 1882.

Chief quartermaster.

[Third indorsement.]

OFFICE CHIEF QUARTERMASTER, DEPARTMENT OF THE EAST,
Governor's Island, New York Harbor, December 21, 1882.

Respectfully returned to the assistant adjutant-general Department of the East.

The accompanying plans and estimates appear to have been very carefully prepared, and now that it seems probable that Madison Barracks is to be continued as a large garrison for many years, it is believed that all the additions and repairs and new constructions estimated for are absolutely necessary.

The modified estimates call for $52,888.90, chargeable to the following appropriations, viz: Barracks and quarters, $33,348.40; Army transportation, $19,540.50; and their approval by the department commander is recommended.

The new water-supply system should be put in operation early in the coming spring, if the state of the appropriation will admit of it.

I recommend that consideration of the project for raising the old row of officers' quarters, at stated approximate cost of $5,000, be deferred for the present.

C. G. SAWTELLE,
Deputy Quartermaster-General, Chief Quartermaster.

[Fourth indorsement.]

HEADQUARTERS DEPARTMENT OF THE EAST,
Governor's Island, N. Y., December 27, 1882.

Respectfully forwarded to the Adjutant-General of the Army.

As it is in accordance with the views of the General of the Army, expressed in his annual report, that there should be erected at Madison Barracks permanent quarters for ten companies, the inclosed plans and estimates being in that direction are approved, both for the water-supply and the raising of the old row of officers' quarters.

It will be seen from Colonel Wilcox's indorsement that he has given the question of a garrison for ten companies at Madison Barracks consideration (headquarters and six companies are there now), and is ready with a plan to prepare the post for four additional companies, should it be called for.

WINFD. S. HANCOCK,
Major-General Commanding.

[Fifth indorsement.]

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, December 30, 1882.

Respectfully referred to the Quartermaster-General for remark.
By order of the Secretary of War.

R. C. DRUM,
Adjutant-General.

[Sixth indorsement.]

QUARTERMASTER-GENERAL'S OFFICE,
Washington, January 11, 1883.

Respectfully returned to the honorable Secretary of War.

These papers cover plans and estimates calling for improvements at Madison Barracks, New York, the estimated cost of which is $52,888.90—barracks and quarters $33,348.40; army transportation, $19,540.50.

They have received the approval of General Hancock, they being, the Department Commander adds, in accordance with the views of the General of the Army, as expressed in his annual report that there should be erected at Madison Barracks permanent quarters for ten companies.

The reduced condition of the appropriations above indicated, will not admit of any portion of the work being done at this time.

The General of the Army having in his annual report of 1882 recommended that for the enlargement and improvement of different military posts, Madison Barracks being among the number, that Congress be asked to grant $1,000,000, and that recommendation having been concurred in by the Secretary of War, as appears from Book of Estimates for 1883 and 1884, page 156, I suggest that these papers be now laid before the General of the Army for his information, &c.

RUFUS INGALLS,
Quartermaster-General, Bvt. Maj. Gen. U. S. A.

[Seventh indorsement.]

HEADQUARTERS OF THE ARMY,
Washington, D. C., January 16, 1883.

To be held until Congress shall have appropriated as asked for, when a due apportionment can be more justly made.

W. T. SHERMAN,
General.

[Eighth indorsement.]

WAR DEPARTMENT, *January* 16, 1883.

The recommendation of the General of the Army is approved.
By order of the Secretary of War.

JOHN TWEEDALE,
Chief Clerk.

Estimate of material and labor to raise the walls and convert the attics of two sets of enlisted men's barracks into dormitories at Madison Barracks, New York.

	Labor raising present roof of barracks 4 feet, at $350 each set	$700 00
4,400	feet hemlock lumber, 10 by 12, for roof plates, at $13 per thousand	57 20
15,840	feet hemlock lumber, 2 by 8, for ceiling rafters, at $13 per thousand	205 92
270	thousand sawed shingles, at $4.75 per thousand	1,282 50
44	thousand laths, 1½-inch, at $4.75 per thousand	209 00
20,000	feet pine flooring, tongued and grooved, at $30 per thousand	600 00
400	pounds cut nails, 2 penny, at $5 per hundredweight	20 00
500	pounds cut nails, 10 penny, at $4.75 per hundredweight	23 75
400	pounds shingle nails, at $5.25 per hundredweight	21 00
80	window frames and sash (six lights 10 by 12), at $4.50 each	360 00
708	perches half-dressed stone masonry, at $5 per perch	3,540 00
80	dressed stone window sills, at $4 each	320 00
40	chimneys raised 4 feet, at $4 each	160 00
4,000	yards plastering, two-coat work, at 25 cents per yard	1,000 00
40	days' labor lathing, at $2 per day	80 00
264	days' labor, carpenter work, at $2.50 per day	660 00
	Paints, oils, and labor to paint wood work	150 00
	Total cost of repairs	9,389 37

W. W. WITHERSPOON,
First Lieutenant and Reg. Q. M. Twelfth Infantry, A. A. Q. M.

Approved:

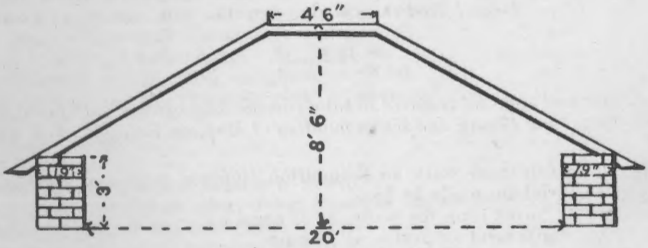
O. B. WILCOX,
Colonel Twelfth Infantry, Bvt. Maj. Gen., U. S. A., Commanding.

Estimate of labor and material required to build commanding officers', adjutants', quartermasters' offices, and library and school building at Madison Barracks, New York.

106.60	cubic yards stone-work for foundation, lime and mortar, at 5 cents	$533 00
294,338	burnt brick for walls, at $8	2,354 70
920	bushels burnt lime for walls, at 25 cents	230 00
150	cubic yards sand for walls, at 38 cents	57 00
	Labor erecting walls	1,176 00
48	cut-stone window caps, at $4	192 00
48	cut-stone window sills, at $4	192 00
4	outside door caps, 4 feet 2 inches, cut stone, at $5	20 00
4	outside door sills, 4 feet 2 inches, cut stone, at $6	24 00
2	outside door caps, 5 feet 8 inches, cut stone, at $6	12 00
2	outside door sills, 5 feet 8 inches, cut stone, at $7	14.00
4	cut-stone platform steps, 4 feet by 4 feet, at $16	64 00
8	cut-stone platform steps, 16 inches by 4 feet, at $6	48 00
2	cut-stone platform steps, 4 feet by 6 feet, at $24	48 00
4	cut-stone platform steps, 16 inches by 6 feet, at $8	32 00
246	linear feet for water table, at $1	246 00
22,246	feet rough lumber, rafters, joists, and studding, at $21 per M	671 61
9,548	feet dressed tongued and grooved pine floors, base-boards, casing, &c., at $45	429 63
	(Above lumber includes labor of erection.)	
270	feet cornice, at $1	270 00
21	steps of stairway complete with hand rail and casing, at $8	168 00
48	window frames, sash, glass, and painting complete, at $9 each	432 00
48	sets weights, cords, pulleys, and locks, at $2.50 each	120 00
4	outside doors, frames, transoms, and painting, at $16 each	64 00
4	sets outside door trimmings, hinges, locks, &c., at $3 each	12 00
2	outside doors, frames, transoms, and painting double, at $27 each	54 00
2	sets door trimmings, hinges, locks, &c., at $4 each	8 00
16	inside doors, frames, casing, and painting, at $9 each	144 00
16	sets door trimmings, hinges, locks, &c., at $2.50 each	40 00
200	square yards painting, at 22 cents	44 00
41	squares tin roofing, including labor, at $8	328 00

A.

Cross-section plan of attic of barracks at Madison Barracks, N. Y.



Scale, 1 inch = 8 feet.

H. Ex. 61——face p. 22

	Water-spouts, escapes, &c.	$60 00
2,028	square yards plastering, 3 coats hard finish, at 30 cents	608 40
	Total for offices and schools	8,695 31

W. W. WITHERSPOON,
First Lieutenant and Reg. Q. M. Twelfth Infantry, A. A. Q. M.

Approved:

O. B. WILCOX,
Colonel Twelfth Infantry, Bvt. Maj. Gen., U. S. A., Commanding.

Estimate of material and labor required to erect kitchens and bath-rooms to officers' quarters at Madison Barracks, New York.

94,000	burnt brick for walls, at $8	$752 00
282	bushels lime, at 25 cents	70 00
47	cubic yards sand, at 38 cents	17 96
	Labor, erecting walls	276 00
18	cut-stone window-caps, at $4	72 00
18	cut-stone window-sills, at $4	72 00
4	cut-stone door-caps, at $5	20 00
4	cut-stone door-sills, at $5	20 00
9,000	feet rough lumber, rafters, joists, studding, &c., at $21	189 00
5,395	feet dressed tongued and grooved lumber, floors, casings, &c., at $45	232 77
	(Above lumber includes labor of erection.)	
6	outside doors, frames, and casings, complete, at $9	54 00
10	inside doors, frames and casings complete, at $9	90 00
16	sets door trimmings, locks, hinges, &c., at $1.50	24 00
18	window-frames, sashes, glass, complete, at $8.50	153 00
850	square yards plastering, two-coat work, at 20 cents	170 00
2	bath-tubs, at $15	30 00
2	wash-stands, at $10	20 00
4	water-closets, at $22	88 00
40	feet iron pipe, elbows and faucets to above	15 00
50	feet glazed soil-pipe from water-closet to sewer, at 40 cents	20 00
1	ventilating pipe and top protection	5 00
6	stationary wash-tubs for laundry, at $10	60 00
20	feet iron pipe, elbows and faucets to laundry	7 50
	Plumber's labor	20 00
17	squares tin roofing, including labor, $8	136 00
60	square yards painting, at 22 cents	13 20
	Total for one double kitchen and bath-room	2,627 43
	Cost of four double kitchens and bath-rooms	10,509 72
	Cost of material and labor to erect two single kitchens and bath-room for quarters at either end of officers' row upon same general plan, at $1,342 each	2,684 00
	Cost of material and labor to raise walls and furnish bath-rooms to rear buildings of officers' quarters, kitchens to which are already built, at $414 each, five sets	2,070 00
	Total cost of repairs to officers' quarters	15,263 72

The above estimate contemplates the erection of four double and two single kitchens in rear of officers' quarters west of sally-port to replace wooden sheds, which are in ruinous condition and a source of danger from fire; also the raising of connection between front and rear building of officers' quarters east of sally-port and fitting the rooms so formed as bath-rooms.

W. W. WOTHERSPOON,
First Lieutenant and Reg. Q. M., Twelfth Infantry.

Approved.

O. B. WILLCOX,
Colonel Twelfth Infantry, Bvt. Maj.-Gen. U. S. A., Commanding.

MADISON BARRACKS, N. Y., *December* 11, 1882.

Estimate of material and labor for water-works at Madison Barracks, New York.

	Buildings:	
	Engine-house, complete	$1,000 00
	Engines, boilers, and water-mains:	
2	boilers with air-tank and smoke-stack	1,310 00
1	feed-pump for boilers	175 00
	Labor setting boilers	246 00
1	force-pump including labor setting same	1,000 00
2,700	feet cast-iron pipe, 6 inches diameter, ⅜ thick, for main, at $1.55	4,185 00
	Labor trenching and refilling for main in rock, at $1.50	4,050 00
	Labor laying main and connecting pipe by lead, at 21 cents	567 00
30	elbows and T's, 6-inch, at $2.50 each	75 00
1,380	feet wrought-iron pipe, ½-inch connections from main, at 35 cents	483 00
	Labor trenching and refilling for ½-inch pipe in rock, at $1.50	2,070 00
	Labor laying ½-inch pipe at 5 cents	69 00
50	elbows and T's, ½-inch, at 50 cents	25 00
25	stop-cocks, ½-inch, at $6	150 00
6	gates in 6-inch main, at $44	264 00
10	double fire hydrants, at $50 for complete set	500 00
6	single fire hydrants, without standard, at $15	90 00
	Sewer-pipe to carry water to main sewer:	
500	feet glazed tile sewer-pipe, 6 inches, and laying same, at $1.80	900 00
700	feet glazed tile sewer-pipe, 8-inch, and laying same, at $1.95	1,365 00
30	elbows and T's, glazed tile sewer-pipe, at 50 cents	15 00
	Hose-nozzles and hose-reels for use with fire:	
500	feet linen or rubber hose, 3-inch, with couplings, at $1.30	650 00
2	hose-nozzles for fire pat., at $7	14 00
250	feet rubber hose, 1-inch, with couplings, at 35 cents	87 50
2	iron hose-carts, at $125 each	250 00
	Total for water-works	19,540 50

The above estimate contemplates the erection of engine-house, laying of mains, placing of hydrants, furnishing necessary hose and appliances for protection against fire, and laying of sewer from S. E. corner of west barracks to lake N. W. of earthwork.

W. W. WOTHERSPOON,
First Lieutenant Reg. Q. M. Twelfth Infantry.

MADISON BARRACKS, N. Y., *December* 12, 1881.

Approved.

O. B. WILLCOX,
Colonel Twelfth Infantry, Bvt. Maj.-General, U. S. A., Commanding.

No. 5.

BUILDINGS AT FORT WAYNE, MICHIGAN.

OFFICE OF ACTING ASSISTANT QUARTERMASTER,
Fort Wayne, Michigan, December 8, 1882.

SIR: In obedience to instructions contained in your indorsements of October 27 and November 14, 1882, I have the honor to transmit herewith the following papers prepared here, viz:

Estimate for double set company officers' quarters.
Specification and estimate for one set company quarters.
Specifications and estimates for storehouse and shops.
Plan, elevation, and section of company quarters.
Plan, elevation, and section of storehouse and shops.

I also send the following papers received from your office, viz:

Specifications for company officers' quarters, in which I have made provisions for bath-tubs and concreting cellars.
Elevation of company barracks.

End elevation and section of company barracks.
Longitudinal section through roof.
Framing plan of roof.
Cellar plan field officers' quarters.
First floor field officers' quarters.
Second floor field officers' quarters.
Front elevation field officers' quarters.
Side elevation field officers' quarters.
One set of plans for company officers' quarters.

Tracings of plans and copies of estimates and specifications have been made and retained here.

The commanding officer will forward plat of post, on which will be indicated the location of proposed buildings.

The following is a recapitulation of the entire cost of proposed buildings:

2 sets company barracks, at $11,632.26 each	$23,264 52
3 sets double company officers' quarters, at $8,693.82 each	26,081 46
1 building for storehouse and workshop	3,779 38
6 privies and vaults for officers' quarters, at $82.57 each	495 42
For extension of sewer in rear of officers' quarters	135 00
For walks in front of officers' quarters	109 20
For paling fences between officers' quarters	33 00
For fencing yards of officers' quarters	173 67
Total	54,071 65

Very respectfully, your obedient servant,

GREGORY BARRETT,
First Lieutenant and Reg. Q. M., Tenth Infantry, A. A. Q. M.

CHIEF QUARTERMASTER DEPARTMENT OF THE EAST,
Governor's Island, New York Harbor.
(Through commanding officer.)

[First indorsement.]

FORT WAYNE, MICH., *December* 11, 1882.

Respectfully forwarded. Attention invited to the letter of remarks and suggestions of commanding officer, inclosing a plat of fort and reservation.

The roll of drawings accompanies in separate package.

H. B. CLITZ,
Colonel Tenth Infantry, Commanding.

[Second indorsement.]

DECEMBER 13, 1882.

CHIEF QUARTERMASTER.

[Third indorsement.]

OFFICE OF CHIEF QUARTERMASTER, DEPARTMENT OF THE EAST,
Governor's Island, New York Harbor, December 21, 1882.

Respectfully returned to the Assistant Adjutant-General, Department of the East.

The accompanying plans and estimates, which have been prepared in compliance with orders of the department commander, contained in indorsement bearing date of October 23, 1882, on letter from the General of the Army of October 20, 1882, to Major-General Hancock, commanding Military Division of the Atlantic, have been very carefully prepared, and are for the number and character of buildings which the General of the Army specifies in his letter should be erected to make Fort Wayne a complete garrison for headquarters, band, and six full companies of infantry.

Inclosed herewith, marked A, is a tracing of plan of Fort Wayne, showing the location of all existing buildings, and in red ink the location proposed for the barracks and storehouse if built inside the fort, as suggested by the General of the Army.

Especial attention is invited to the accompanying letter from Col. H. B. Clitz, commanding post. I concur with Colonel Clitz in the opinion that a new building for storehouse, shops, &c., is not immediately necessary at this post, and that whenever built (for the reasons given in his letter) it should be placed *outside* the walls of the fort.

The site for the new officers' quarters, indicated in pencil on the inclosed tracing, seems to be the best possible. This will necessitate the removal of the old post cemetery, which has already been urgently recommended, and of the old chapel, which should be removed or torn down.

The inclosed estimates call for $54,071.65, or if new storehouse is not now authorized the estimate will be reduced by $3,779.38; total $50,292.27; and approval of the same by the department commander is recommended.

C. G. SAWTELLE,
Deputy Quartermaster-General, Chief Quartermaster.

[Fourth indorsement.]

HEADQUARTERS DEPARTMENT OF THE EAST,
Governor's Island, N. Y., December 27, 1882.

Respectfully forwarded to the Adjutant-General of the Army.

The inclosed plans, specifiation, and estimates, made to accord with the views of the General of the Army, are recommended for approval.

Attention is invited to the letter of Colonel Clitz, commanding the post of Fort Wayne, containing suggestions and remarks in regard to the erection of proposed new buildings at that post.

WINFD. S. HANCOCK,
Major-General, Commanding.

[Fifth indorsement.]

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, December 30, 1882.

Respectfully referred to the Quartermaster-General for remarks.

By order of the Secretary of War:

R. C. DRUM,
Adjutant-General.

[Sixth indorsement.]

QUARTERMASTER-GENERAL'S OFFICE,
Washington, January 13, 1883.

Respectfully returned to the honorable Secretary of War, and invite attention to accompanying notes of the 11th instant, in which the facts of the case are recited.

Based on instructions of the General of the Army, General Hancock has had plans and estimates prepared for providing additional accommodations at Fort Wayne, Michigan.

The estimate calls for $54,071.65, or, if storehouse be omitted, $50,292.27, and has received the approval of the major-general commanding the division.

The reduced condition of the barracks and quarters reserve fund will not warrant any portion of the work being done at this time.

As General Sherman, in his annual report of 1882, page 10, considers Wayne as one of the posts which should be maintained in permanency (though changes involving cost are necessary), I recommend that these papers be laid before him for his information, &c.

RUFUS INGALLS,
Quartermaster-General, Brevet Major-General, U. S. A.

WAR DEPARTMENT, *January* 18, 1883.

Respectfully referred to the General of the Army for remark.

ROBERT T. LINCOLN,
Secretary of War.

HEADQUARTERS ARMY OF THE UNITED STATES,
Washington, D. C., January 18, 1883.

SIR: I have the honor herewith to return the plans, estimates, and papers relating to Fort Wayne, Michigan, and recommend that these papers be transmitted to the Military Committee of the House of Representatives with a request for an appropriation of $54,071.65 to complete the work estimated for, the work to be done under the supervision of the Quartermaster's Department.

Notwithstanding the opinion of Colonel Clitz, I approve of building inside the fort, of good stone or brick, at least one set of barracks and storehouse for war purposes; the buildings outside should be similar to those existing, of frame on good brick foundations, to be destroyed in case of war. Fort Wayne is one of the most valuable military posts on the northern frontier, and should be finished in the best style possible for a garrison of at least six full companies.

W. T. SHERMAN,
General.

Hon. R. T. LINCOLN,
Secretary of War.

FORT WAYNE, MICHIGAN, *December* 9, 1882.

SIR: I have the honor to make the following suggestions and remarks in regard to the erection of the proposed new buildings at this post:

The inclosed tracing of the fort and reservation, shows the position of the proposed new brick barracks, in red, at A and B. Between the back piazzas of Barracks A and B, and the foot of the revetment of the terre-plein, there should be left space 8 feet wide for a road-way, and between barracks and bakery a space of the same width, which will leave a space of 15 feet between the corner of the front piazza of Barrack A and the corner of Barrack No. 12. The north end of Barrack B being in the same plane with the north end of Barrack No. 12, there will be a space of at least 30 feet between the bakery and Barrack B. A two-story brick building for shops and stores, 20 by 100 feet, is shown at C, its foundation lying between the main sewer and the foot of the revetment.

There are strong reasons why this building, if built, should not be placed inside the fort, the main one being that the postern shown at X enters the flank of the bastion at Z, with a passage-way of only 8 feet, makes a sharp turn at an angle only 5 degrees greater than a right angle, into a passage way only 12 feet wide running under the parapet into the fort. It is therefore with difficulty that a short coupled two-horse wagon can pass through it. A long coupled wagon, or a wagon loaded with rafters, flooring, joists, or sleepers, would have to be unloaded outside, and the material carried in by hand. Besides, we have ample store-room and shop-room in buildings Nos. 31, 32, 34, and 35, for a six-company post.

But if it is deemed necessary to erect such a building the best place for it would be on the clear space opposite building No. 30, which is the administration building. The position of the three new double sets of officers' quarters is shown in pencil on the right of the present officers' line. The chapel, which is no longer used as such, could be removed or torn down. There will then be 22 sets of officers' quarters. The full complement of officers of a post for regimental headquarters and six companies would be: 1 commanding officer, 1 surgeon, 1 assistant surgeon, 1 regimental quartermaster, 1 adjutant and 18 company officers, making a total of 23. If all were present, two bachelor second lieutenants could occupy one set of quarters.

Placing these quarters on the right of the present line would be less expensive than placing them anywhere else, because of the sewers, water pipes, fencing, walks, &c., but if placed there the cemetery should be removed, which has already been recommended. It is well to note that the cellar floors of the three new sets of quarters should be 2 feet higher than those of the present quarters, for the sake of good drainage into the vaults, which get shallower as they approach the right of the line. The sewer falls 1 inch in every 10 feet.

All long timber for both barracks will have to be unloaded at the outside end of the foot-bridge and carried by hand into the fort.

Very respectfully, your obedient servant,

H. B. CLITZ,
Colonel Tenth Infantry, Commanding.

ASSISTANT ADJUTANT-GENERAL,
Department of the East, Governor's Island, N. Y. H.

Estimate of store-house and carpenter-shop at Fort Wayne, Michigan.

180 perches rubble stonework, at $7	$1,260 00
24 window-sills, 5 by 8.4 feet, 96 feet, at 70 cents	37 50
66 M brick laid, at $11	726 00
200 pounds iron anchors and bolts, at 10 cents	20 00
11,000 feet bill stuff, at $25	275 00
7,500 feet 1½ F. C. pine flooring, at $35	262 50
3,000 feet roof boards, at $20	60 00
23 M shingles xxx, at $6	138 00
272 feet cornice, at 75 cents	204 00
24 windows, at $6	144 00
4 pairs outside double doors, at $12	48 00
1 pair inside double doors, at $10	10 00
2 outside single doors, at $7	14 00
1 inside flight of stairs	50 00
1 outside flight of stairs	100 00
650 yards painting (2 coats), at 14 cents	91 00
288 lights, glazing 12 by 16, at 22 cents	63 36
216 feet gutter xx tin 88 feet conductor galv. iron } 304 feet trimming, at 20 cents	60 80

Hoist beam	$10 00
24 pairs outside shutters, at $5	120 00
Drainage, &c.:	
70 feet 4-inch earthen pipe, at 4 cents per foot	9 80
3 4-inch traps, at $1.60	7 80
4 4-inch T's, at 48 cents	1 92
½ barrel cement	1 50
Total	$3,779 38

Estimate of one set company quarters.

388 perch rubble masonry, at $7	$2,716 00
52 window sills, 4 feet, 208 feet, at 70 cents	145 60
7 door sills, 34 feet, at $1.50	51 00
282 M brick, at $11	3,104 00
1,475 yards plastering, at 24 cents	354 00
300 pounds iron anchors, &c., at 10 cents	30 00
25,000 feet bill stuff, at $25	625 00
9,200 feet maple flooring, at $50	460 00
4,500 feet roof boarding, at $20	90 00
34 M shingles, at $6	204 00
336 feet cornice, at $1	336 00
5,500 feet wainscoating, at $45	247 50
52 windows, complete, at $14	728 00
15 single doors, at $14	210 00
4 pairs double doors, at $25	100 00
1 flight stairs	200 00
272 verandas	1,200 00
Steps	30 00
Sinks	20 00
Painting 2,420 yards, at 20 cents	484 00
Glazing 624 lights, 10 inches by 18 inches, at 20 cents	124 80
Plumbing	30 00
Tinning 280 feet gutter, 200 feet conductor, at 20 cents	96 00
Sewerage and drain pipes.	
244 feet 10-inch earthen pipe, at 40 cents per foot	97 60
170 feet 4-inch earthen pipe, at 14 cents per foot	23 80
2 2-inch traps, at $3.20	6 40
1 10-inch elbow	1 10
2 10-inch T's, at $1.25	2 50
2 4-inch T's, at 48 cents	96
Total	11,618 26
Amount saved on stone work by building a battering wall with heavy rubble footing, stone footing, 4,500 feet, at 40 cents per yard	1,800 00
Rubble masonry with footing, 300 perch	2,100 00
	3,900 00
Battering wall, 388 perch, at $7	2,716 00
	1,184 00
Saved on square head windows	52 00
Total amount saved on one building	1,236 00
Cash brought down	11,618 26
One bridge from veranda to serraplain	14 00
Total cost	11,632 26

Estimate of one double set company officers' quarters.

158 perch rubble masonry, at $7	$1,106 00
8 cellar steps, 32 feet 4 inches, stone, at 50 cents	16 00
10 cellar-window sills, 4x10—40 feet, at 50 cents	20 00
60 square feet 4-inch stone coalslide, two man holes	40 00

144	square feet hearthstone, at 50 cents		$72 00
78,000	brick, at $11		858 00
2	cellar-door sills, 8 feet, at $1.50 per foot		12 00
2,826	yards plastering, at 24 cents		678 24
275	yards deafening, at 35 cents		96 25
30,000	feet bill stuff, at $25		750 00
3,000	feet deafening floor, at $28		84 00
6,500	feet flooring, at $32		208 00
4,000	feet roof boards, at $20		80 00
29,000	shingle, at $6		174 00
270	feet cornice, at $1.50		405 00
5,500	feet sheathing, at $22		121 00
390	feet plinth and corner boards, at $35		13 65
4	flight rear steps, at $15		60 00
48	feet veranda, at $7		336 00
10	basement windows, at $5		50 00
14	first-story windows, at $15		210 00
18	dormer windows, at $25		450 00
2	pairs double doors, at $25		50 00
2	pairs sliding doors, at $30		60 00
36	single doors, at $12		432 00
1,350	feet run of base, at 10 cents		135 00
	Closet finish		30 00
2	flights cellar stairs		10 00
2	flights main stairs, at $150		300 00
2	flights rear stairs, at $40		80 00
32	sets outside blinds, at $5		160 00
8	mantles and grates, at $30		240 00
	Trimming—		
126	feet gutter } 258 feet, at 20 cents		51 60
132	feet conductor }		
5	square veranda roof, at $10		50 00
400	feet valley, at 10 cents		40 00
	Flashing around chimneys and dormers		30 00
	Painting—		
1,900	yards painting, at 20 cents		380 00
	Glazing—		
414	lights, at 25 cents		103 50
	Plumbing		150 00
	Bell-hanging		30 00
6,500	feet siding, at $35		227 50
	Total		8,380 74
	Drainage:		
156	feet 4-inch earthen pipe, at 14 cents per foot	$21 84	
48	feet 6-inch earthen pipe, at 20 cents per foot	9 60	
2	4-inch traps, at $1.60	3 20	
2	6-inch traps, at $1.74	3 48	
4	4-inch T's, at 48 cents	1 92	
2	6-inch elbows, at 50 cents	1 00	
6	4-inch elbows, at 40 cents	2 40	
2	6 by 4 Y's, at 72 cents	1 44	
1	barrel cement	3 00	
			47 88
	Bath tubs:		
2	bath-tubs and connections, complete, at $80		160 00
	Concreting cellars:		
263	yards concreting, at 40 cents per yard		105 20
	Grand total		8,693 82

	Privy:		
250	feet bill stuff, at $25	$6 25	
60	feet 1¼-inch flooring, at $40	2 40	
100	feet roof boards, at $20	2 00	
500	shingles, at $6	3 00	
200	feet sheathing, at $22	4 40	
150	feet corner boards, at $40	6 00	
300	siding, at $35	4 50	
2	doors, at $3.50	7 50	
2	windows and shutters	2 00	
2	seats, with covers	2 00	
2	ventilators	2 00	
28	yards plastering, at 24 cents per yard	6 72	
75	yards painting, at 14 cents per yard	6 30	
			$55 07
1	brick vault, 2,500 brick, at $11		27 50
	Total		82 57
	Fencing to inclose yards of company officers' quarters:		
175	feet fencing, 6 feet high, at 25 cents per foot		43 75
101	yards fence painting (two coats), at 14 cents per yard		14 14
	Total		57 89
	Extension of sewer:		
300	feet 10-inch earthen pipe, at 40 cents per foot		120 00
5	barrels cement, at $3		15 00
	Total		135 00
	Walks:		
	Seven-foot walk in front of officers' quarters.		
546	feet 4-foot walk, at 20 cents per foot		109 20
	Paling fence:		
	Paling fence between officers' quarters.		
150	feet paling fence, at 22 cents per foot		33 00

No. 6.

BUILDINGS AT FORT NIOBRARA, NEBRASKA.

POST-QUARTERMASTER'S OFFICE.
Fort Niobrara Nebr., December 21, 1882.

SIR: I beg leave to acknowledge the receipt of your telegraphic instructions of December 15, 1882, directing plans and estimates to be prepared for the construction of a sufficient number of barracks, quarters, and stables at the post to enable it to accommodate a garrison of eight companies of cavalry.

Such an increase would necessitate the construction of the following buildings, viz:

Four barracks, each for one company of cavalry.
Five stables, each for one company of cavalry.
Five sets of captain's quarters (single).
Three sets of lieutenant's quarters (double).

Upon this basis the inclosed plans and estimates have been prepared, and the total estimated expense for material and the labor of civilian mechanics, is as follows:

Four barracks at $4,355 each	$17,422 00
Five cavalry stables $1,360 each	6,800 00
Three sets lieutenant's quarters (double) $3,881 each	11,643 00
Five sets captain's quarters at $2,585.75 each	12,928 75
Making a total for material and labor of	48,793 75

It is proposed to use adobe as a building material, the adobe being laid upon mortar instead of mud as is usually the case. The price named in the estimate covers the cost of the adobe delivered in the wall, the lime and sand being furnished by the United States and the adobe hauled from the brickyard to the buildings by government teams.

It is proposed to cut all dimension-timber at the post saw mill, where the lengths do not exceed fourteen feet, and to purchase dimension stuff, where the lengths exceed that limit. This has been found necessary on account of the impossibility of obtaining sound logs of greater length than fourteen feet within a reasonable distance (30 miles) of the post.

It is proposed to burn the lime and brick at the post by the labor of troops, joined to such skilled civilian labor as may be needed for the purpose. In addition to this it is proposed to accomplish the following tasks by the labor of troops, *i. e.:* to cut and skid all logs needed for making lumber and shingles, to furnish working parties to operate the saw mill, planer, and shingle and lath machines, and to quarry, haul, and deliver all the stone, clay, and sand needed for burning brick and lime and for laying the foundatio walls of the buildings contemplated in the inclosed estimates.

Should the post be increased in size according to the plans submitted herewith it is respectfully requested that the following work be undertaken in connection therewith. Detailed plans and estimates can be submitted if it be deemed proper to do so. They are as follows:

The construction of a heavy wagon bridge across the Niobrara River between this post and Valentine, Nebr., the terminus of the Sioux City and Pacific Railroad, at an expense of	$6,500 00
The establishment of a system of drainage and the increase and extension of the water-supply system at the post, at an estimated expense of	4,500 00
Increasing the size of the present company quarters to make them conform to the plan submitted herewith, at an expense of	4,000 00
Making a total of	15,000 00

All of these works should be undertaken if it be proposed to garrison the post for any considerable length of time. The extension of the water supply and the construction of a heavy wagon bridge are deemed of so much importance that it is proposed to ask for authority and means to construct them in the estimates of the next fiscal year.

I am, sir, very respectfully, your obedient servant,

GEO. B. DAVIS,
First Lieutenant Fifth Cavalry, Acting Assistant Quartermaster.

ASSISTANT ADJUTANT-GENERAL,
Department of the Platte, Omaha, Nebraska.
(Through the commanding officer.)

[First indorsement.]

FORT NIOBRARA, NEBR., *December* 22, 1882.

Respectfully forwarded to the assistant adjutant-general, Department of the Platte. Approved.

S. MUNSON,
Captain Ninth Infantry, Commanding.

TO CHIEF QUARTERMASTER.

[Third indorsement.]

HEADQUARTERS DEPARTMENT OF THE PLATTE,
CHIEF QUARTERMASTER'S OFFICE,
Omaha, January 4, 1883.

Respectfully returned to the adjutant-general, Department of the Platte, concurring in the views of the regimental quartermaster, Fort Niobrara, and recommending the construction of the buildings referred to, as also the construction of a bridge across the Niobrara River for military purposes, and the establishment of a system of drainage and extension of the water-supply system already at the post, as herein suggested.

According to the estimates of the regimental quartermaster, Fort Niobrara, the cost of the buildings proposed to be constructed would be $48,793.72; the bridge, $6,500; system of drainage, $4,500; extension of water-supply system, $4,000; which amounts are considered by this office to be reasonable in view of the work to be accomplished.

As only one copy each of the estimates and plans were forwarded by the regimental quartermaster, Fort Niobrara, duplicate copies of same, as required by General Orders No. 23, Adjutant-General's Office, of 1882, have been prepared by this office and are herewith inclosed.

JOHN V. FUREY,
Captain and Assistant Quartermaster, U. S. A., in Charge of Office.

[Fourth indorsement.]

HEADQUARTERS DEPARTMENT OF THE PLATTE,
Omaha, Nebr., January 5, 1883.

Respectfully forwarded through headquarters Military Division of the Missouri to the Adjutant-General of the Army, approved and recommended.

The necessity for the expenditure arises from the proximity of Fort Niobrara to two large reservations occupied by many Indians, and the probability of the discontinuance of other posts of the department rendering consolidation of troops at other stations necessary.

O. O. HOWARD,
Brevet Major-General, Commanding.

CHIEF QUARTERMASTER OF THE DIVISION.

[Sixth indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
OFFICE CHIEF AND DEPOT QUARTERMASTER,
Chicago, Ill., January 15, 1883.

Respectfully returned to the adjutant-general of the division, recommending estimate be forwarded for action of War Department, and that the present Congress be asked for the money for the purpose indicated in this estimate.

CHAS. H. TOMPKIN,
Assistant Quartermaster-General, U. S. A., Chief Quartermaster.

[Seventh indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
Chicago, Ill., January 17, 1883.

Respectfully forwarded to the Adjutant-General of the Army. Approved.

P. H. SHERIDAN,
Lieutenant-General, Commanding.

[Eighth indorsement.]

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, D. C., January 19, 1883.

Respectfully referred to the Quartermaster-General for remark.
By order of the Secretary of War.

C. MCKEEVER,
Assistant Adjutant-General, in Charge.

[Ninth indorsement.]

QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., January 23, 1883.

Respectfully returned to the honorable Secretary of War.
These papers cover plans and estimates calling for—

Four barracks of adobes	$17,422 00
Five cavalry stables of adobes	6,800 00
Three double sets lieutenants' quarters	11,643 00
Five sets captains' quarters	12,928 75
Or a total of	48,793 75

in order to accommodate a garrison of eight companies of cavalry at Fort Niobrara, the labor of troops being utilized to reduce the cost as much as possible.

If above work is authorized, a further expenditure of $15,000 appears necessary for the construction of a heavy wagon bridge, drainage, and water supply, and for alterations of present company quarters.

Plans and estimates are approved and recommended by General Howard, who adds that "the necessity for the expenditure arises from the proximity of Fort Niobrara to two large reservations occupied by many Indians, and the probability of the discontinuance of other posts of the department rendering consolidation of troops at other stations necessary."

Approved also by the Lieutenant-General.

The General of the Army having in his last annual report included Niobrara among the posts now occupied that will be necessary for, say, ten years, and that consequently all repairs and improvements should be of a temporary character, and paid for out of the annual appropriation for barracks and quarters, I recommend that these papers be transmitted for the information, &c., of the headquarters of the Army.

RUFUS INGALLS,
Quartermaster-General, Brevet Major-General, U. S. A.

[Tenth indorsement.]

HEADQUARTERS OF THE ARMY,
Washington, D. C., January 24, 1883.

Respectfully submitted to the Secretary of War.

Fort Niobrara will be needed as long as the Sioux occupy their present locations on the White Earth. If Congress will make specific appropriations to the enlargement of this post, I will assuredly approve.

W. T. SHERMAN,
General.

Estimate of labor and material needed in the construction of one set barracks for a company of cavalry at Fort Niobrara, Nebraska.

Articles.	Number or quantity.	Expense.	
		Material.	Labor.
Masonry foundations, at 40 cents per linear yard.....yards...	200	.....	$80 00
Adobes, delivered in wall, at $15 per 1,000	60,000	.....	900 00
2″ by 6″ by 18′ rafters ..... 4,680 feet b. m.....pieces...	260	.....	.....
2″ by 6″ by 16′ ties..... 4,160 ,, ,, ... ,, ...	260	.....	.....
1″ by 6″ by 16′ braces..... 1,820 ,, ,, ... ,, ...	260	.....	.....
2″ by 12″ by 16′ plates..... 1,100 ,, ,, ...linear feet...	550	.....	.....
2″ by 10″ by 16′ floor joists ..... 3,840 ,, ,, ...pieces...	240	.....	.....
2″ by 8″ by 12′ doors and windows 1,500 ,, ,, ... ,, ...	100	.....	.....
Total dimension lumber..... 17,100 " " at $25 per 1,000 feet	.....	$427 50	.....
Shingles, at $3 per M	80,000	240 00	.....
Tongued and grooved flooring, 1″ by 6″, at $45 per M .....feet...	9,000	405 00	.....
Tongued and grooved ceiling, 1″ by 6″, at $35 per M..... ,, ...	15,000	525 00	.....
Finishing lumber, at $45 per M ..... ,, ...	2,000	90 00	.....
B. stock boards, at $45 per M..... ,, ...	2,000	90 00	.....
Windows, 12-light, 10 by 16, at $3.50 each .....No...	42	147 00	.....
Doors, 3′ by 7′ 6″ by 1¾″, with hinges and fastenings, at $5 each .....No...	30	150 00	.....
Nails, 5 30*d.*, 5 20*d.*, 10 10*d.*, 10 8*d.*, 6 shingle, 4 finish, at $4 per keg .....kegs...	40	160 00	.....
White lead, at 9 cents per lb.....lbs...	1,000	90 00	.....
B. L. oil, at 80 cents per gallon.....gallons...	60	48 00	.....
Turpentine, at 70 cents per gallon.....gallons...	50	35 00	.....
3-0 oval brushes, at $3 per dozen .....No...	12	3 00	.....
Tools	.....	40 00	.....
Plastering 1,200 yards, at 20 cents per yard, material to be furnished by the United States.....	.....	.....	240 00
Burning lime and brick.....	.....	.....	50 00
Superintending.....	.....	.....	50 00
Saw mill (labor).....	.....	.....	25 00
Labor of eight carpenters one month, at $70.....	.....	.....	560 00
Total.....	.....	2,450 50	1,905 00
Total material and labor.....	.....	.....	4,355 50
Total for four sets barracks	.....	.....	17,422 00

Estimates of labor and material needed in the construction of one (1) set cavalry stables at Fort Niobrara, Nebraska.

Articles.		Number or quantity.	Expense.	
			Material.	Labor.
2″ by 6″ feet plates	2,500 linear feet	2,500		
2″ by 6″ by 18′ rafters, ties, &c	4,500 pcs	250		
2″ by 6″ by 16′ posts	1,600 "	100		
4″ by 6″ by 16′ kicking posts	1,920 "	60		
2″ by 12″ by 18′ partitions	9,000 "	250		
Total	19.520 at $25 per 1,000		$488 00	
8-in. drop siding or ship-lap	$35 " "	5,000	175 00	
Shingles	$3 " " No	80,000	240 00	
Nails 2-30*d*. 4-20*d*. 5-40*d*. 4-8*d*. 5 shingles	$4 a keg kegs	20	80 00	
Mineral paint	5c. per lb lbs	600	30 00	
Hinges, locks, and hardware			30 00	
Oil, B. L.	at 80c. gal gals	40	32 00	
Labor of 3 carpenters	1 mo. at $ 70			$210 00
Labor of 1 Mason	1 mo. at $75			75 00
Total			1,075 00	285 00
Total material and labor				1,360 00
Total for 5 cavalry stables				6,800 00

Estimate of material and labor needed in construction of one set captain's quarters at Fort Niobrara, Nebraska.

Articles.	Number or quantity.	Expense.	
		Material.	Labor.
Foundation walls at 40 cents per yard yards	2,000		$80 00
Adobes, laid in wall at $15 per thousand	20,000		300 00
2″ by 6″ by 28′ rafters 1,400 pieces	50		
2″ by 6″ by 20′ ties 1,000 "	50		
2″ by 6″ by 12′ posts 800 "	70		
2″ by 12″ plates 400 linear feet	200		
2″ by 10″ by 16′ floor joist 2,600 pieces	100		
2″ by 8″ by 16′ " " 1,470 "	70		
2″ by 6″ by 12′ rafters 480 "	40		
2″ by 6″ by 10′ ties 400 "	40		
Total dimensions, lumber 8,550 feet at $25 per thousand		$213 75	
Shingles at $4 per thousand	34,000	136 00	
Building paper at 5 cents per pound lbs	400	20 00	
Finishing lumber at $45 per M feet	2,500	112 50	
B. stock boards at $40 per M feet	2,000	80 00	
Doors 3′ by 7′ 6″ by 1¾″ at $4.50 each	20	90 00	
Double doors at $9 each	2	18 00	
Windows at $3.50 each	20	70 00	
Window blinds at $2.50 each	20	50 00	
Door hardware at $1.25 sets	20	25 00	
Iron mantles at $25 No	4	100 00	
Nails, 4 kegs 30*d*., 4 kegs 20*d*., 6 kegs 10*d*., 6 kegs 8*d*., 6 kegs shingle, 4 kegs fine at $4.50 kegs	30		
White lead at 9 cents per lb lbs	30	135 00	
B. L. Oil at 80 cents per gallon gallons	500	45 00	
Turpentine at 70 cents per gallon gallons	30	24 00	
Brushes No. 3 at $3 per dozen No	20	14 00	
Tools $30. Screws $8	6	1 50	
200 feet iron pipe, ¾ inch, at 9 cents, $18. Bath-tub, $30		38 00	
Brick at $10 per M M	8,000	48 00	
10 bbls. of plaster at $3, $30. 50 bushels hair at 30 cents, $15		80 00	
Plaster (3 coats) at 25 cents per yard yards	1,200		300 00
Carpenter labor, 7 men, 1 month, at $70			490 00
Painting labor, 1 man, 1 month			70 00
Total		1,345 75	1,240 00
Total material and labor			2,585 75
Total for 5 sets captains quarters			12,928 75

Estimate of material and labor needed in the construction of one (1) double set of officers' quarters at Fort Niobrara, Neb.

Articles.	Number or quantity.	Expense.	
		Material.	Labor.
Foundation walls, at 40 cents per linear yard ..... yards...	200	.....	$80 00
Adobes, laid in walls, $15 per M. ..... No...	25,000	.....	375 00
2″ by 10″ by 30′ hip rafters ..... 200 ..... pcs...	4	.....	.....
2″ by 8″ by 25′ rafters ..... 3,300 ..... " ...	100	.....	.....
2″ by 6″ by 16′ rafters ..... 512 ..... " ...	32	.....	.....
2″ by 6″ by 20′ ties ..... 2,000 ..... " ...	100	.....	.....
2″ by 6″ by 20′ ties ..... 400 ..... " ...	20	.....	.....
2″ by 10″ by 16′ floor joists ..... 2,600 ..... " ...	100	.....	.....
2″ by 6″ by 14′ studding ..... 2,100 ..... " ...	150	.....	.....
2″ by 4″ by 14′ studding ..... 1,500 ..... " ...	150	.....	.....
2″ by 12″ plates ..... 600 ..... " ...	300	.....	.....
Total dimension lumber ..... 13,212, at $25 per M...	.....	$330 00	.....
Window-frames, at $3	30	90 00	.....
Door-frames, side and top sash, $8	2	16 00	.....
Door-frames, 3′ by 7′ 6″, $4	6	24 00	.....
Doors, 3′ by 7′ 6″ by 1¾″, $5	12	60 00	.....
Doors, 3′ by 7′ 6″ by 1¾, at $4.50	24	108 00	.....
Doors, 2′ 6″ by 6′ 6″ by 1¾″, at $3	12	36 00	.....
Door hardware, at $ ..... sets...	26	72 00	.....
Door latches, at 75 cents	12	9 00	.....
Glazed sash, 10 by 16, 12-light, at $3.50 ..... pieces...	30	105 00	.....
Tongued and grooved flooring, 4″, at $45 per M. ..... feet...	8,000	350 00	.....
B stock boards, at $40 per M ..... feet...	2,000	80 00	.....
Finishing lumber, at $50 per M ..... feet...	2,800	140 00	.....
Shingles, at $4 per M ..... M...	60	240 00	.....
Building paper, at 5 cents per pound ..... lbs...	400	20 00	.....
Plaster, at $3 per barrel ..... barrels...	40	120 00	.....
Plastering hair, at 30 cents per bushel ..... bushels...	100	30 00	.....
Plastering 2,000 square yards, three coats, at 25 cents per yard...	.....	.....	500 00
White lead, at 9 cents per pound ..... lbs...	1,000	90 00	.....
B. L. oil, at 80 cents per gallon ..... gallons...	50	40 00	.....
Turpentine, at 70 cents per gallon ..... gallons...	40	28 00	.....
Brushes, No. 3, at $3 per dozen	12	3 00	.....
Cast-iron mantels, $25 each	2	50 00	.....
Tools	.....	40 00	.....
Carpenters' labor, ten men, one month, at $70	.....	.....	700 00
Mason's labor, one month, $75; painter's labor, one month, $70...	.....	.....	145 00
Total:	.....	2,081 00	1,800 00
Total labor and material	.....	.....	3,881 00
Total for three sets officers' quarters (double)	.....	.....	11,643 00
RECAPITULATION.			
Barracks ..... sets...	4	$9,802 00	$7,620 00
Cavalry stables ..... sets...	5	5,375 00	1,425 00
Captain's quarters ..... sets...	5	6,728 75	6,200 00
Officers' quarters (double) ..... sets...	3	6,243 00	5,400 00
Grand total	.....	28,148 75	20,645 00
Grand total material and labor	.....	.....	48,793 75

No. 7.

CONSTRUCTION OF POST OF FORT THORNBURGH, UTAH, AND COMPLETION OF ROAD LEADING THEREFROM.

HEADQUARTERS DEPARTMENT OF THE PLATTE,
Omaha, Nebr., December 12, 1882.

SIR: The reoccupation of Fort Thornburgh by an adequate force next spring is in my judgment of the first importance. On account of the restless character of the Indians, especially of those gathered at the new Ute agency, all parties agree, including the Ute Commission, that it would be unwise to leave the Ashley Valley and vicinity, where there are already six hundred white inhabitants, absolutely at the mercy of the Indians. Should the fort be continued there is but little danger of trouble at either of the agencies, each being thirty miles distant. The appropriation of $85,400 already asked for is deemed sufficient for building the post, but as the new road just opened across the mountains to the Union Pacific Railway is not yet practicable, except for the dryest season, and as it will require $10,000 to put it into proper condition I recommend that this sum be appropriated for that purpose. It is next to impossible to work these extended roads by the soldiers' labor, and with the few men we have for military duty it

is a wrong to the service and a virtual violation of contract with the men so employed to make them simply and continuously laboring men.

The Indians in our vicinity are so many and so well armed that I regard it as a suicidal policy to use up the time essential for the drill of soldiers and preparation for war in unending labor in the construction of roads, and posts; so I urge most earnestly that the appropriation for Thornburgh, $85,400, and for the road, $10,000, be made without reduction. I ask special attention to the condition of the title, that it may be, through the Secretary of the Interior, secured beyond question.

Very respectfully, your obedient servant,

O. O. HOWARD,
Brevet Major General Commanding.

ASSISTANT ADJUTANT-GENERAL,
Military Division of the Missouri, Chicago, Illinois.

[First indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
Chicago, Ill., December 16, 1882.

Respectfully forwarded to the Adjutant-General of the Army.

The recommendations of the Commanding General Department of the Platte are approved.

P. H. SHERIDAN,
Lieutenant-General Commanding.

[Second indorsement.]

ADJUTANT-GENERAL'S OFFICE,
Washington, December 19, 1882.

Respectfully submitted to the General of the Army, inviting attention to the accompanying Ex. Doc. No. 90, Forty-seventh Congress, first session, from which it will be seen that plans and estimates for the construction of the post of Fort Thornburgh, involving an expenditure of $84,000, were submitted to Congress at its last session.

Previous papers relative to the title of the United States to the land in the Ashley Valley selected as the site for the post were submitted to the Secretary of War, with report, on the 9th instant.

The commanding-general Department of the Platte now earnestly recommends an appropriation of $85,400 for the construction of this post, and $10,000 for completion of a new road across the mountains to the Union Pacific Railroad, in which the Lieutenant-General concurs.

R. C. DRUM,
Adjutant-General.

[Third indorsement.]

HEADQUARTERS OF THE ARMY,
Washington, December 27, 1682.

Respectfully submitted to the Secretary of War. Approved and recommended.
W. T. SHERMAN, *General.*

No. 8.

COMPLETION OF POST OF FORT CUSTER, MONTANA TERRITORY.

HEADQUARTERS DEPARTMENT OF DAKOTA,
Fort Snelling, Minn., December 18, 1882.

SIR: I have the honor to inclose a letter from Col. J. P. Hatch, commanding officer at Fort Custer. It explains itself. Mr. Maginnis, the delegate from Montana, has been very successful in obtaining appropriation for military posts in the Territory which he represents, and I have no doubt would interest himself in obtaining the one which Colonel Hatch suggests.

Fort Custer is an admirable post for the headquarters of a regiment of cavalry and for a regimental school of instruction, and such schools I think are necessary, for it appears to be almost impossible to do anything for the instruction of cavalry at posts where there are but one or two troops, and where the garrison is mixed.

But I, of course, would not approach Mr. Maginnis upon this matter without the approval of my superiors, and I therefore submit the suggestion of Colonel Hatch to the lieutenant-general commanding.

From the allowance to this department from the appropriation for barracks and quarters for the current fiscal year, over seven thousand dollars have already been allotted to Fort Custer, and should the demands of other posts permit it a further allowance may be made; but to put the post in thoroughly good condition the sum named by Colonel Hatch is, I think, necessary.

Very respectfully, your obedient servant,

ALFRED H. TERRY,
Brigadier-General Commanding.

ADJUTANT-GENERAL,
Military Division of the Missouri, Chicago, Ill.

[Third indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
Chicago, Ill., December 22, 1882.

Respectfully forwarded to the Adjutant-General of the Army. I regard Fort Custer as a permanent post. Its location is such that its occupation for many years will be necessary.

P. H. SHERIDAN,
Lieutenant-General Commanding.

[Fourth indorsement.]

HEADQUARTERS OF THE ARMY,
Washington, D. C., December 29, 1882.

Respectfully submitted to the honorable Secretary of War.

As long as the Sioux are in a semi-barbarous condition, corralled in the Sioux Reservation, the post of Fort Custer will have to be maintained. I therefore recommend a special appropriation of $25,000 to complete the buildings already begun.

W. T. SHERMAN, *General.*

FORT CUSTER, MONTANA, *November* 24, 1882.

DEAR GENERAL: The Delegate from Montana having succeeded last year in getting through Congress a special appropriation for Fort Maginnis, it has occurred to me that if this post is to be permanent a similar appropriation to complete it might be obtained.

We are now completing the tenth, a cavalry barrack. It will be divided and used for the present as library, band-practice room, and telegraph office.

If an appropriation could be got, as above suggested, I would recommend that the number of troops of cavalry be increased one, giving me half the regiment, the troops to be changed from time to time with those at other posts, as the commander of the department thought fit. I would use such appropriation about as follows:

Replacing foundation of present buildings, using soldier labor principally	$1,000
Two blocks of officers' quarters	6,000
Granary	3,000
Quartermaster storehouse	3,000
Band-practice room	1,600
Reading-room or library and telegraph office	1,200
Ordnance storehouse, brick	3,000
Two troop stables	4,000
One headquarter stable	500
Troop blacksmith shop (6 fires)	1,000
Wheelwright and carpenter shop	700
Total	25,000

The above is but a rough estimate. I am, however, confident I can complete all that I propose with the above amount, and possibly do more. The two blocks of officers' quarters I would so arrange as to accommodate six officers. At present our quarters are uncomfortably crowded. As I suggest, an increase of three officers with quarters for six, it would afford material relief.

The ordnance building, stables, shops, and storehouses are necessary with the present garrison, and it is hardly probable they can be got out of the barrack and quarter fund.

Hoping the above will meet with your approval, I am, General, very respectfully, your obedient servant,

JOHN P. HATCH,
Colonel Commanding Post.

General A. H. TERRY.

No. 9.

REPAIRS OF BUILDINGS AT FORT DOUGLAS, UTAH.

Estimate of supplementary building material for repairs required for the service of the post of Fort Douglas, Utah, during the year ending on the 30th day of June, 1883.

[By First Lieutenant Charles G. Penney, R. Q. M., Sixth Infantry, acting assistant quartermaster, U. S. Army.]

Number of officers, and rank: 1 colonel, 3 majors, 7 captains, 14 subalterns. Number of men, 256; number of laundresses, 1; number of horses, 16; number of mules, 41; number of wagons, 11.

Articles and quantity.	Cost in the immediate vicinity of the post.	Remarks.
1. OFFICERS' QUARTERS.		
(One single set, ten double sets.)		
700 feet pine, 2 by 6 inches; 1,800 feet pine, 1¼ inches thick, 12 inches wide.	$75 00	
42 pair T-hinges, 12-inch, heavy	12 00	
21 pair T-hinge hasps, 8-inch	10 00	Repair of cellars, stairs, and doors.
3½ gross screws, No. 10, 1½-inch	3 50	
30 pounds clout-nails, 2-inch; 15 pounds cut nails, 20*d*.	7 00	
1,500 feet pine, 1¼ inches thick, 12 inches wide	45 00	Repair of steps.
63 pounds cut nails, 10*d*	2 00	
2,000 shingles	18 00	Repair on roofs.
12 pounds cut nails, 4*d*	75	
12,000 feet pine, 6 by 6 inches; 5,000 feet pine, 2 by 4 inches; 20,000 feet pine, 1 inch, rough; 400 feet pine, 2 by 6 inches.	1,122 00	
40 pairs hinges, strap, heavy, 10-inch	20 00	Repairs of part of iron fences between officers' quarters and of fences around yards of officers' quarters and on cellars and cellar doors.
80 pair hinges, strap, heavy, 14-inch	50 00	
24 wrought hasps, hooks, and staples	8 00	
200 pounds cut nails, 20*d*	10 00	
400 pounds cut nails, 12*d*	21 00	
15 dozen screws, 1½-inch, No. 12	10 00	
20,000 shingles	180 00	Repairs on coal-sheds.
150 pounds cut nails, 4*d*	7 00	
12 gate-latches	5 00	Repairs on gates in front of officers' quarters.
12 door-springs	10 00	
24 gate-hinges	24 00	
1,280 feet tin spouting, 4-inch, with fastenings; 640 feet tin pipes, 3-inch; 46 tin elbows, 3-inch; 30 pounds solder.	300 00	To protect buildings from damage by water.
500 yards plastering	140 00	Repair of walls.
700 pounds white lead, 12 pounds graining color, oak; 12 pounds graining color, walnut; 25 pounds burnt sienna, 25 pounds ivory black, 30 gallons linseed oil, 10 gallons turpentine, 200 pounds putty.	120 00	Repainting of quarters inside and outside.
Total cost of materials	2,200 25	
LABOR.		
4 carpenters for 20 days, at $4 each per day	320 00	In repair of officers' quarters, 1 single, 10 double sets.
1 painter, 45 days, at $4 per day	180 00	
2 plumbers for 20 days, at $4.90 each per day.	196 00	
Total cost of labor	696 00	
Total amount required for repair of officers' quarters.	2,896 25	
2. HEADQUARTER OFFICES, READING-ROOM, AND BAND QUARTERS.		
6,000 feet flooring, hard pine, 4-inch	312 00	Repairs on floors.
80 pounds cut nails, flooring	4 25	

Estimate of supplementary building material for repairs, &c.—Continued.

Articles and quantity.	Cost in the immediate vicinity of the post.	Remarks.
2. HEADQUARTER OFFICES, &C.—Continued.		
500 yards plastering	$140 00	Repair on walls.
20 bushels lime, 200 pounds salt, 200 pounds Spanish whiting, 120 pounds rice, 40 pounds glue.	70 00	Whitewashing inside.
260 feet tin spouting, 4-inch; 100 feet tin pipe, 3-inch; 4 tin elbows, 3-inch; 8 pounds solder.	60 00	To protect building against damage by water.
80 feet pine, 2 by 6 inches; 120 feet pine, 2 by 4 inches; 150 feet pine, 1-inch, rough.	7 50	Repairs on cellar and cellar-doors.
10 pounds cut nails, 12*d*; 20 pounds cut nails, 20*d*.	2 00	
1 wrought-iron hasp and staples, 4 pair hinges, T, heavy, 14-inch.	2 75	
5 dozen screws, 1¼-inch, No. 12	75	
400 feet pine, 1½-inch, planed on one side	15 00	Repairs on steps.
10 pounds cut nails, 16d	70	
75 pounds of white lead, ½ pound litharge, 4 gallons linseed-oil, 1 gallon turpentine.	10 00	Repainting of inside of buildings.
Total cost of material	624 95	
LABOR.		
2 carpenters for 10 days, at $4 each per day	80 00	
1 painter for 8 days, at $4 per day	32 00	
1 plumber, 5 days, at $4.90 per day	24 50	
Total cost of labor	136 50	
Total amount required for repairs of headquarter offices, &c.	761 45	
3. BARRACKS. (6 single sets.)		
18,000 feet of flooring, hard pine, 4-inch	900 00	Repairs on floors.
200 pounds of cut nails, flooring	10 00	
1,000 yards plastering	280 00	Repairs on wall.
2,020 feet tin spouting, 5-inch; 20 tin elbows, 3-inch; 520 feet tin pipe, 3-inch; 75 pounds solder.	410 00	To protect buildings against damage by water.
2,000 feet of pine, 1½-inch; 4,000 feet pine, 1-inch, common; 800 feet pine 2 by 4 inches; 400 feet pine, 2 by 6 inches.	216 00	Repairs on steps, on cellars, and cellar-doors.
24 pair hinges, T-heavy, 14-inch	4 00	
6 hinge-hasps and staples	3 75	
2 gross screws, 1¼-inch, No. 10; 2 gross screws, 3-inch, No. 16.	4 00	
100 pounds cut nails, 12*d*; 20 pounds cut nails, 20*d*.	6 00	
100 mortice door-locks, 3½ by 4½ by 9.16 inches, with knobs and extra keys.	90 00	Replacing broken ones.
400 feet of glass, 10 by 16 inches; 50 pounds putty; 6 papers glazier's points.	19 50	Reglazing windows.
36 window sashes, 6 lights each, 10 by 16 inches.	52 20	Replacing worn-out ones.
800 pounds white lead	56 00	Repainting of barracks, inside and outside.
36 pounds burnt umber	7 20	
15 pounds burnt sienna	4 00	
20 pounds yellow ochre	3 75	
30 gallons linseed oil	24 00	
10 gallons turpentine	9 00	
3 pounds litharge	1 05	
Total cost of material	2,100 45	

Estimate of supplementary building material for repairs, &c.—Continued.

Articles and quantity.	Cost in the immediate vicinity of the post.	Remarks.
LABOR.		
6 carpenters for 10 days, at $4.00 each per day.	$240 00	
2 painters for 24 days, at $4.00 each per day..	112 00	
3 plumbers for 8 days, at $4.90 per day each..	117 60	
2 stone-masons for 10 days, at $6.00 each per day, to repair vent in two barracks and refix plinth of two doors.	120 00	
Total cost of labor	589 60	
Total amount required for repairs on barracks.	2,690 05	
4. GUARD-HOUSE.		
4,000 feet flooring, hard pine, 4-inch	200 00	Repair on floor.
50 pounds cut nails, flooring	2 50	
50 feet pine, 2 by 6 inches	1 50	
200 feet flooring, common.....	10 00	For putting up bunk for members of the guard.
50 feet clear lumber, 1 by 10 inches wide.....	2 50	
20 pounds cut nails, flooring; 5 pounds cut nails, 12*d*. .	1 25	
200 yards plastering.....	56 00	Repairs on walls.
50 feet glass, 10 by 16 inches; 12 window sashes, 6 lights each, 10 by 16 inches; 12 pounds putty; 2 papers glazier's points.	24 00	Repair on windows.
100 pounds white lead, 4 gallons linseed oil, 2 gallons turpentine, 1 pound litharge.	13 00	Repainting inside and outside.
140 feet tin spouting, 4 inch; 40 feet tin pipe, 3-inch; 2 tin elbows, 3-inch; 8 pounds solder.	30 00	Protecting building against damage from water.
50 bushels lime, 15 pounds glue.....	27 00	Whitewashing inside repeatedly.
Total cost of material.....	367 75	
LABOR.		
2 carpenters for 5 days, at $4 each per day..	40 00	
1 plumber 2 days, at $4.90 per day.....	9 80	
1 painter 6 days, at $4 per day.....	24 00	
Total cost of labor.....	73 80	
Total amount required for repair of guard-house.	441 55	
5 QUARTERS OF N. C. STAFF OFFICERS.		
2,000 feet siding.....	60 00	Repairs on outside walls.
2,000 feet flooring, hard pine, 4 inches.....	100 00	Repairs on floors.
6 panel doors, 6 feet 8 inches by 2 feet 8 inches; 2,000 feet common lumber.	60 00	Replacing broken doors. General repairs on buildings, cellars, cellar-door.
150 pounds cut nails, 10-penny; 30 pounds cut nails, flooring.....	10 00	
500 yards plastering.....	140 00	
50 feet glass, 10 by 16 inches; 6 pounds putty; 2 papers glaziers' points.	4 60	Repairs on walls. Reglazing windows.
500 feet tin spouting, 4-inch; 150 feet tin pipe, 3-inch; 12 tin elbows, 3-inch; 10 pounds solder.....	90 00	To protect buildings from damage by water.
Total cost of material.....	464 60	
LABOR.		
3 carpenters for 10 days, at $4 per day each..	120 00	
2 plumbers for 3 days, at $4.90 per day.....	29 40	
Total cost of labor.....	149 40	
Total amount required for repair of quarters of N. C. S. officers.	614 00	

Estimate of supplementary building material for repairs, &c.—Continued.

Articles and quantity.	Cost in the immediate vicinity of the post.	Remarks.
6 STOREHOUSES OF A. C. S. AND A. A. Q. M.		
13,500 feet C lumber; 13,500 feet lumber (in length), O. G. Battens; 400 pounds cut nails 10-penny.	$800 00 10 50	Repairs of walls.
200 feet pine, 1½ inch thick, 12 inches wide; 150 feet pine, 2 inches wide	45 00	Repair on steps.
5,000 shingles, A	2 25	Repairs on roofs.
50 pounds cut nails 4-penny		
15,000 feet pine, 1½ inches; 1,000 feet pine 2 by 8 inches; 300 pounds cut nails 16-penny	495 00	Repairs on flooring.
4,800 feet C lumber	240 00	For laying floor on upper part of buildings to utilize them for storage.
500 feet pins, 2 by 6 inches; 600 feet pins, 1½ inch thick, 12 inches wide.	33 00	Putting up shelves.
100 pounds cut nails, 10-penny	4 75	
600 feet tin spouting, 4-inch; 100 feet tin pipe, 3-inch; 6 tin elbows; 15 pounds solder.	110 00	To protect buildings from damage by water.
Total cost of materials	1,740 50	
LABOR.		
6 carpenters for 12 days, at $4 per day	282 00	
2 plumbers for 3 days, at $4.90 per day	29 40	
Total cost of labor	311 40	
Total amount required for repair of store-houses.	2,051 90	
7. OFFICE OF A. C. S. AND A. A. Q. M.		
1,800 feet flooring, hard pine, 4-inch	90 00	Repairs on floor.
20 pounds cut nails; flooring	1 00	
500 yards plastering	148 00	Repair of walls.
400 feet pine, 2 by 6 inches; 200 feet pine, 2 by 6 inches; 2,000 laths.	47 00	Enlarging office of A. C. S.
25 pounds cut nails; lath	1 75	
500 pounds white lead; 2 gallons linseed oil; 1 gallon turpentine.	6 00	Repainting of offices.
Total cost of material	293 75	
LABOR.		
1 carpenter 10 days, at $4 per day	40 00	
1 painter 4 days, at $4 per day	16 00	
Total cost of labor	56 00	
Total amount required for repair of offices of A. C. S. and A. A. Q. M.	349 75	
8. Q. M. WORKSHOPS. (4 buildings.)		
8 thousand shingles; 100 pounds cut nails, 4-penny.	76 00	Repairs on roofs.
4,000 feet C lumber; 50 pounds cut nails, 10-penny.	123 00	Repairs on walls and floors.
48 window-sashes; 6 lights, each 10 by 12 inches.	90 00	Replacing worn-out ones.
Total amount of material	289 00	

Estimate of supplementary building material for repairs, &c.—Continued.

Articles and quantity.	Cost in the immediate vicinity of the post.	Remarks.
9. STABLES.		
2 Quartermaster's stables.		
800 feet pine, 1 inch C; 800 feet common flooring; 600 feet pine, 4 by 6 inches; 40 pounds cut nails, 8-penny; 10 pounds cut nails, 20-penny.	$69 00	Repairs on doors.
16 hinges T heavy, 14 inches	4 00	Repairs on doors.
480 feet pine, 2 by 6 inches; 2,700 feet pine, 1 inch C; 4,320 feet pine, 1½ inches 600 feet pine, 2 by 6 inches; 2,400 feet pine, 2 inches; 100 pounds cut nails, 8-penny; 100 pounds cut nails, 20-penny.	340 00	Repairs on stalls, mangers, and flooring stalls.
2,000 shingles; 20 pounds cut nails, 4-penny....	19 00	Repairs on roofs.
Total cost of material	432 00	
LABOR.		
4 carpenters for 14 days, at $4 per day.....	224 00	
Total amount required for repair of stables	656 00	
10. GENERAL REPAIRS.		
6,000 feet pine, 1 inch C.....	180 00	Repairs on fences at post.
400 feet pine, 2 by 4 inches; 800 feet pine, 6 by 6 inches; 130 cedar posts 7 feet long: 60 pounds cut nails, 10-penny.	111 00	Repairs on fences at post.
30 pounds cut nails, 20-penny.....	1 75	
5,000 feet pine, 1 inch C; 1,000 feet pine, 2 by 4 inches; 1,000 feet pine, 2 by 6 inches; 80 pounds cut nails, 10-penny; 20 pounds cut nails, 16-penny.	215 00	Repairs on coal-sheds for companies.
10,000 feet pine, 1 inch C; 1,000 feet pine, 2 by 6 inches; 2,000 shingles; 1,000 feet clear pine, 1½ inches; 100 pounds cut nails, 10-penny; 25 pounds cut nails, 4-penny.	386 00	Repairs on water-closets.
300 bushels lime; 1,000 pounds salt; 3,000 pounds copperas; 60 whitewash brushes.	490 00	Yellow-wash on wooden public buildings and fences at post.
36 Rim door-locks with knobs and extra key.	36 00	Repairs on doors.
Total cost of material	1,419 75	
LABOR.		
1 carpenter, 60 days, at $4 per day.....	240 00	
Total amount required for general repairs.	1,659 75	

RECAPITULATION.

	Officers' quarters.	Headquarters, offices, and band quarters.	Barracks.	Guard-house.	Non-commissioned staff quarters.	Store-houses.	Offices.	Workshops.	Stables.	General repairs.	Total.
Lumber, shingles, &c.	$1,440 00	$334 50	$1,116 00	$214 00	$220 00	$1,588 50	$137 00	$192 00	$413 00	$877 25	$6,532 25
Hardware, nails, &c.	200 25	10 45	117 75	3 75	10 00	42 00	2 75	7 00	19 00	52 50	465 45
Paints, oils, &c.	120 00	10 00	105 00	13 00	.....	.....	6 00	.....	.....	.....	254 00
Glass, window-sash, &c.	.....	.....	71 70	24 00	4 60	.....	.....	90 00	.....	.....	190 30
Spouting, &c.	300 00	60 00	410 00	30 00	90 00	110 00	.....	.....	.....	.....	1,000 00
Plastering, by the job.	140 00	140 00	280 00	56 00	140 00	.....	148 00	.....	.....	.....	904 00
Lime, &c., for white and yellow wash.	.....	70 00	.....	27 00	.....	.....	.....	.....	.....	490 00	587 00
Labor:											
Carpenter	320 00	80 00	240 00	40 00	120 00	282 00	40 00	.....	224 00	240 00	1,586 00
Stone mason	.....	.....	120 00	.....	.....	.....	.....	.....	.....	.....	120 00
Plumber	196 00	24 50	117 40	9 80	29 40	29 40	.....	.....	.....	.....	[illegible]
Painter	180 00	32 00	112 00	24 00	.....	.....	16 00	.....	.....	.....	[illegible]
	2,396 25	761 45	2,690 05	441 55	614 00	2,051 90	349 75	289 00	656 00	1,659 75	12,[illegible]

I certify that the above estimate is correct, and that the articles specified are requisite for the public service, rendered so by the circumstances set forth in the above remarks.

CHAS. G. PENNEY.
First Lieutenant, Regimental Quartermaster Sixth Infantry, A. A. Q. M.

Approved:

A. McD. McCOOK,
Colonel Sixth Infantry, Brevet Major-General, Commanding.

FORT DOUGLAS, UTAH, *December* 9, 1882.

OFFICE OF POST QUARTERMASTER,
Fort Douglas, Utah, December 9, 1882.

SIR: I have the honor to forward herewith a supplementary estimate, in duplicate, for materials for repairs of barracks, quarters, storehouses, &c., at this post.

The allotment heretofore made to this post has not been sufficient to even place in good repair a small portion of the garrison, particularly when by increase of garrison all the quarters and barracks became occupied.

Where so many demands are made the sum of $1,500 will admit only patch-work and not substantial repairs, such as would last for a number of years and obviate the necessity to call for large amounts every year.

As to the condition of the public buildings at this post and its wants, I would respectfully refer to my letter of April 17, 1882.

I am, sir, very respectfully, your obedient servant,

CHAS. G. PENNEY,
First Lieutenant, Sixth Infantry, Regimental Quartermaster, A. A. Q. M.

QUARTERMASTER-GENERAL, U. S. A.,
Washington, D. C. (Through commanding officer.)

[First indorsement.]

FORT DOUGLAS, UTAH, *December* 12, 1882.

Respectfully forwarded through headquarters Department of the Platte, Omaha, Nebr.

A. McD. McCOOK,
Colonel Sixth Infantry, Brevet Major-General U. S. A., Commanding.

[Second indorsement.]

HEADQUARTERS DEPARTMENT OF THE PLATTE,
Omaha, Nebr., December 26, 1882.

Respectfully forwarded through headquarters Military Division of the Missouri to the Adjutant-General of the Army—approved—with recommendation for favorable consideration in the preparation of estimates for the coming fiscal year.

O. O. HOWARD,
Brevet Major-General, Commanding.

CHIEF QUARTERMASTER OF THE DIVISION.

[Fourth indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
OFFICE CHIEF AND DEPOT QUARTERMASTER,
Chicago, Ill., January 6, 1883.

Respectfully returned to the Adjutant-General of the Division with recommendation that this estimate be forwarded for the action of the War Department, and the special attention of the Secretary of War be called to it; and the amount, $12,409.70, estimated for be asked for from the present Congress. In a late inspection of this post, made by the Lieutenant-General and myself, all the repairs contemplated by the estimate were deemed necessary.

CHAS. H. TOMPKINS,
Assistant Quartermaster-General U. S. A., Chief Quartermaster.

[Fifth indorsement.]

HEADQUARTERS MILITARY DIVISION OF THE MISSOURI,
Chicago, Ill., January 11, 1883.

Respectfully forwarded to the Adjutant-General of the Army.

Approved.

P. H. SHERIDAN,
Lieutenant-General, Commanding.

[Sixth indorsement.]

QUARTERMASTER-GENERAL'S OFFICE,
Washington, January 18, 1883.

Respectfully forwarded to the honorable Secretary of War through headquarters of the Army.

An estimate is herein, calling for $12,409.70 for general repair of public buildings at Fort Douglas, Utah, and is approved by Department Commander.

The Lieutenant-General having, with his Chief Quartermaster, personally inspected the post, found all the repairs herein contemplated necessary. I concur in their recommendation that Congress be asked at the present session to appropriate the requisite

money, *i. e.*, $12,409.70, as the reduced condition of the barracks and quarters' reserve fund will not warrant any portion of the work being done at this time.

RUFUS INGALLS,
Quartermaster-General, Brevet Major-General U. S. A.

HEADQUARTERS OF THE ARMY,
Washington, D. C., January 20, 1883.

Respectfully submitted to the honorable Secretary of War.
Approved.

W. T. SHERMAN, *General.*

REPORTS OF THE GENERAL OF THE ARMY AND THE QUARTERMASTER-GENERAL, IN EXPLANATION OF THE ESTIMATES FOR BUILDINGS AT MILITARY POSTS.

[Submitted to Congress December 4, 1882, and printed in House Executive Document No. 5, Forty-seventh Congress, second session, pp. 155 and 156. To accompany War Department letter of January 25, 1882.]

Estimates for buildings at military posts.

HEADQUARTERS ARMY OF THE UNITED STATES,
Washington, D. C., October 16, 1882.

SIR: The subject-matter treated of in your indorsement of October 9th is one of very great importance, and the time is now for a radical change in our whole system of piecemeal work in quartering the troops of the United States.

For a hundred years we have been sweeping across the continent with a skirmish line, building a post here and another there, to be abandoned next year for another line, and so on. Now we are across, and have railroads everywhere, so that the whole problem is changed; and I advise the honorable Secretary of War to go to Congress with a plan that will approximate permanency, instead of as heretofore meeting specific temporary wants by special appropriations, often in the interest of private parties.

We now have four national frontiers:

1st. The Atlantic and Gulf frontier;

2d. The northern frontier;

3d. The southern or Mexican frontier;

4th. The Pacific frontier; and

5th. The interior.

1st. The Atlantic frontier is purely maritime—harbors with permanent forts and batteries, and quarters for peace garrisons either permanent or temporary. These are Portland, Boston, New York, the Delaware, the Chesapeake, Key West, Pensacola, Mobile, New Orleans, and the Rio Grande. All these points are occupied by small artillery garrisons in reasonably good condition, needing only the repairs incident to time, which repairs can be made annually by means of the usual appropriation for "barracks and quarters."

Now that all the Gulf posts may be reached by railroads, I do not deem it wise or humane to keep garrisons thereat, liable to the annual visitation of the yellow fever. I advise the purchase at Atlanta of a suitable site, and the erection thereon of barracks for a full regiment, at a cost not to exceed $100,000, where troops can be maintained in good discipline and in good health, ready to be sent to Charleston, Savannah, Saint Augustine, Pensacola, and Mobile, on the shortest notice.

2d. The northern or Canadian frontier. The posts which should be maintained in permanency are: Fort Montgomery, outlet of Champlain; Fort Niagara, outlet of Erie; Fort Wayne, Detroit; Mackinac; Fort Brady, Sault Sainte Marie; Pembina; Fort Buford; Fort Assinniboine; Fort Colville; and Port Townsend, Puget Sound. All these places are now occupied, but need changes involving cost.

Fort Montgomery is a costly fort, nearly if not complete, mounting sixty sea-coast guns, but without barracks. I advise that an appropriation be asked for of $60,000 to erect thereon (the reservation is ample, 600 acres) permanent barracks for four companies of artillery.

Plattsburg Barracks could then be sold, or donated to that city for a park. It should have been abandoned after the war of 1812.

Fort Niagara has also a good reservation of 300 acres, admirably located, with brick barracks for one company. I recommend that $30,000 be asked for another similar barracks, and for a corresponding proportion of officers' quarters. This will enable us to give up Fort Porter, Buffalo, which is in ruins, and of no further military value to the United States.

Along this northern line the posts of Forts Wayne, Mackinac, Brady, Buford, Assiniboine, and Port Townsend will answer all present uses, leaving only a new post to be built on the Upper Columbia to replace old Fort Colville, which has rotted down and has been abandoned as uninhabitable. I advise that Congress be asked for $50,000 to build new Fort Colville, to be erected on a site to be chosen near where the Columbia River enters our territory north of old Colville.

3d. The southern or Mexican frontier. The posts now occupied are: Forts Brown; Ringgold Barracks; McIntosh, Laredo; Duncan, Eagle Pass; Del Rio, San Filipe; Fort Clark; San Antonio; Fort Davis; Presidio del Norte; Camp Rice; and Fort Bliss, El Paso del Norte—all these in Texas; and Camp Rucker; Huachuca; Fort Grant; Fort Lowell, Tucson; Fort Yuma, and San Diego, in Arizona and California.

The rapid growth of our railroad system in the past three years has much simplified the problem of the defense of that most difficult frontier, and private interests have assumed such a permanent shape that we may now with safety adopt a system permanent and suited to the probable state of facts during the next fifty years.

Fort Brown is subject to overflow, and during this year has been afflicted with yellow fever in its worst form. I advise its absolute abandonment.

Ringgold Barracks being the property of the United States, and with reasonably good barracks, should he held a few years until the extension of the railroad down the valley of the Rio Grande from Laredo will enable us to dispatch troops to any threatened point promptly, when Ringgold Barracks may also be allowed to pass away.

The strategic points of the Texas frontier are: San Antonio, McIntosh, and Duncan, on the Lower Rio Grande; Fort Davis, with Presidio and Camp Rice, on the Upper Rio Grande, and Fort Bliss.

There is now an existing appropriation of $200,000 for the purchase of sites and building of posts on this extensive and important frontier. The sum is insufficient, and I advise the appropriation of $200,000 more; with which sum I believe General Augur, the department commander, will and can put that whole frontier in a good and permanent condition of defense.

After a personal inspection, I am convinced that the appropriation of $257,451.69 asked for Fort Seldon, N. Mex., is not needed. (See Senate Ex. Doc. 125, Forty-seventh Congress, first session.) What barracks are needed there or thereabouts should be added to those now existing at Fort Bliss, Paso del Norte, for which I would ask 50,000, instead of the $100,000 embraced in the inclosed estimate.

Following the southern line westward, I will remark that nature has done so little for that region that Congress should be liberal to the troops who must guard that frontier. In the table of estimates herewith I find Fort Huachuca, $52,000; Fort Grant, $62,000; Fort Thomas, $30,000, and Fort Apache, $61,000. I approve the two former, but not the two latter, until General Crook, the new commander of the department, submits his estimates. Forts Grant and Huachuca are likely to become permanent, but the latter are temporary, dependent on the existence of the Apache Indians, who, in my judgment, will not long he a disturbing element in that Territory. Forts Lowell and Yuma are of the past.

4th. The Pacific frontier may be construed as Port Townsend; Forts Canby and Stevens, mouth of the Columbia; Fort Vancouver; San Francisco, and San Diego, Cal. At all these places the United States possesses sufficient land and public reservations, and the posts are reasonably good. The inclosed estimate for Vancouver, $90,579.61, is not approved. Fifty thousand dollars should suffice; and $9,859.48 for Fort Canby is approved.

I now come to the interior posts. These have grown up in the progress of the settlement of the continent, were absolutely demanded by the necessities of the country at the time, but many of them are now worse than useless; built of the rawest materials, mere shelters against the winter's storm or the summer's heat, and having fulfilled their purpose should be allowed to die out. Some of them occupy strategic positions and should be held forever as places of arms, in which to collect war material, and for the quartering of troops.

I will mention by name such as I believe should be held permanently, and where barracks of stone or brick should be erected from time to time, so as to quarter troops, which will otherwise soon be roofless by the decay of the temporary quarters which have heretofore been their homes.

Fort Assinniboine, Dak., permanent for ten companies.
Boisé Barracks, Idaho, permanent for four companies.
Fort D. A. Russell, Cheyenne, Wyo., permanent for six companies.
Fort Douglas, Utah, permanent for six companies.
Fort Gibson, Indian Territory, permanent for four companies.
Fort Laramie, Wyo., permanent for six companies.
Fort Leavenworth, Kans., permanent for twelve companies.
Little Rock, Ark., permanent for two companies.

Madison Barracks, N. Y., permanent for ten companies.
Fort Marcy, Santa Fé, N. Mex., permanent for two companies.
Fort Marion, Fla., permanent for two companies.
Fort Meade, Dak., permanent for four companies.
Fort Missoula, Mont., permanent for four companies.
Mount Vernon Barracks, Ala., permanent for two companies.
Newport Barracks, Ky., permanent for two companies.
Omaha, Nebr., permanent for ten companies.
Fort Riley, Kans., permanent for six companies.
San Antonio, Tex., permanent for twelve companies.
San Diego, Cal., permanent for two companies.
Fort Sill, Ind. T., permanent for six companies.
Fort Snelling, Minn., permanent for six companies.
Fort Sully, Dak., permanent for four companies.
Fort Walla Walla, Wash., permanent for six companies.
Washington Barracks, D. C., permanent for six companies.
Fort Wingate, N. Mex., permanent for six companies.

At these interior posts all alterations and repairs of barracks and quarters should be of brick or stone of the most permanent character, meant to last forever.

For the enlargement and improvement of these military posts, the Secretary of War should ask of Congress *annually* $1,000,000 for, say, five years, to be expended by him at discretion by the officers of the Quartermaster's Department, and, in my judgment, in four of five years by this process we will have abundance of good quarters for the whole Army, which will endure for the next fifty years.

The following list of posts now occupied will be necessary for, say, ten years, the repairs to which should consequently be temporary, and paid for out of the annual appropriation for barracks and quarters:

Fort Abraham Lincoln, Dak., frame buildings.
Fort Apache, Ariz., logs and frame buildings.
Fort Bayard, N. Mex., frame buildings.
Fort Bridger, Wyo., frame buildings.
Fort Cameron, Utah, frame buildings.
Fort Cœur d'Alene, Idaho, frame buildings.
Fort Cummings, N. Mex., adobe and frame buildings.
Fort Custer, Mont., logs and frame buildings.
Fort Elliott, Texas, logs and frame buildings.
Fort Ellis, Mont., logs and frame buildings.
Fort Fred Steele, Wyo., logs and frame buildings.
Fort Keogh, Mont., logs and frame buildings.
Fort Lewis, Col., logs and frame buildings.
Fort Lowell, Ariz., adobe buildings.
Fort Maginnis, Mont., frame buildings.
Fort McDowell, Ariz., frame and adobe buildings.
Fort McKinney, Wyo., logs and frame buildings.
Fort Niobrara, Neb., frame buildings.
Ringgold Barracks, Texas, brick buildings.
Fort Randall, Dak., frame buildings.
Fort Reno, Ind. T., frame buildings.
Fort Robinson, Nebr., frame buildings.
Fort Shaw, Mont., frame buildings.
Fort Sidney, Nebr., frame buildings.
Fort Spokane, Wash., frame buildings.
Fort Stanton, N. Mex., frame buildings.
Fort Washakie, Wyo., logs and frame buildings.
Fort Whipple, Ariz., adobe and frame buildings.
Fort Yates, Dak., frame buildings.

The following military posts are obsolete and ought to be abandoned. To accomplish this end Congress should be asked for authority to dispose of all the buildings and materials which cannot be moved, and to sell the reservations, or to transfer the same to the Interior Department for sale or grant under existing laws for the disposition of the public domain, viz:

Bad Lands Cantonment, Dak.
Baton Rouge Barracks, La.
Fort Bennett, Dak.
Fort Bidwell, Cal.
Fort Bowie, Ariz.
Fort Brooke, Fla.
Fort Brown, Texas.

Fort Clark, Texas.
Fort Clinch, Fla.
Old Fort Colville, Wash.
Fort Concho, Texas.
Fort Craig, N. Mex.
Fort Dodge, Kans.
Fort Fetterman, Wyo.
Fort Foote, Md.
Fort Garland, Colo.
Fort Gaston, Cal.
Fort Hale, Dak.
Fort Hall, Idaho.
Fort Halleck, Nev.
Fort Hays, Kans.
Fort Klamath, Oreg.
Fort Lapwai, Idaho.
Fort Lyon, Colo.
Fort McDermit, Nev.
Fort McKavett, Texas.
Fort Mojave, Ariz.
Cantonment North Fork of the Canadian, Ind. T.
Fort Porter, Buffalo, N. Y.
Plattsburg Barracks, N. Y.
Fort Sanders, Wyo.
Fort Sisseton, Dak.
Fort Stevenson, Dak.
Fort Stockton, Texas.
Fort Supply, Ind. T.
Fort Verde, Ariz.
Fort Wallace, Kans.
White River, Colo.
Fort Yuma, Cal.

For convenience of reference, I will now recapitulate:

ATLANTIC FRONTIER.	
New post at Atlanta, Ga	$100,000 00
NORTHERN FRONTIER.	
Fort Montgomery, N. Y	50,000 00
Fort Niagara, N. Y	30,000 00
Fort Colville, Wash	50,000 00
SOUTHERN OR MEXICAN FRONTIER.	
Rio Grande Frontier, below El Paso	200,000 00
Fort Bliss, Paso del Norte	50,000 00
Fort Huachuca, Ariz	52,000 00
Fort Grant, Ariz	60,000 00
PACIFIC FRONTIER.	
Fort Vancouver, Wash	50,000 00
Fort Canby, Wash	9,859 48
Total specific appropriations	651,859 48
For enlargement and improvement of the interior posts of the United States	1,000,000 00
Grand total for 1883–'4	1,651,859 48

In conclusion, I submit a list of all the posts and military reservations held or in charge of the Army, with remarks which explain their general condition, and my recommendation as to their future disposition.

I also inclose map, marked so as to exhibit the location of each post with colors to exhibit which should be treated as permanent, which should be held for temporary use, and which should be abandoned or converted to other uses.

I have the honor to be your obedient servant,

W. T. SHERMAN,
General.

Hon. R. T. LINCOLN,
Secretary of War.

Alphabetical list of the posts of the United States occupied or cared for by the Regular Army, 1882.

Names.	State or Territory.	General condition.	Disposition recommended.
Abraham Lincoln	Dakota	In fair condition; of frame	To be retained; temporary.
Adams	Rhode Island	A permanent fort, in fair condition.	To be retained; permanent.
Alcatraz Island	California	Permanent batteries and citadel.	Do.
Andrew	Massachusetts	A fort without barracks	Of no real value.
Angel Island	California	Wooden barracks and site for fort.	To be retained; permanent.
Apache	Arizona	Temporary; poor condition	To be retained; temporary.
Assinnibpine	Montana	Permanent; fair condition	To be retained; permanent.
Bad Lands	Dakota		To be abandoned.
Barrancas	Florida	Brick barracks; fair condition; permanent.	To be retained; permanent.
Baton Rouge	Louisiana		To be abandoned.
Bayard	New Mexico	Temporary; fair condition	To be retained; temporary.
Benicia Barracks	California	In fair condition; of frame	To be retained; permanent.
Bennett	Dakota	do	To be abandoned.
Bidwell	California	do	Do.
Bliss	Texas	Permanent	To be retained; permanent.
Boise Barracks	Idaho	In fair condition; of stone	Do.
Bowie	Arizona	In fair condition; of adobe	To be abandoned.
Brady	Michigan	Permanent; of frame	To be retained; permanent.
Bridger	Wyoming	Temporary; poor condition; frame.	To be retained; temporary.
Brooke	Florida	Condition poor	To be abandoned.
Brown	Texas	On leased ground	Do.
Buford	Dakota	In good condition; permanent.	To be retained; permanent.
Cameron	Utah	In fair condition; of stone	To be retained; temporary.
Canby	Washington	Condition good	To be retained; permanent.
Carroll (?)	Maryland		
Caswell (?)	North Carolina		
Cheyenne Depot	Wyoming		To be retained; permanent.
Clark	Texas	Buildings and ground leased	To be abandoned.
Clark's Point	Massachusetts		Do.
Clinch	Florida		Do.
Cœur d'Alene	Idaho	Condition good	To be retained; temporary.
Columbus	New York	In fair condition	To be retained; permanent.
Colville	Washington	Poor	To be abandoned.
Concho	Texas	Buildings on rented ground	Do.
Constitution (?)	New Hampshire		
Craig	New Mexico	In fair condition; adobe, &c.	To be abandoned.
Cummings	do		To be retained; temporary.
Custer	Montana	Condition good	Do.
D. A. Russell	Wyoming	In poor condition; frame	To be retained; permanent.
Davis	Texas		Do.
Delaware (?)	Delaware		
Dodge	Kansas		To be abandoned.
Douglas	Utah	In fair condition	To be retained; permanent.
Duncan	Texas		Do.
Dutch Island	Rhode Island		
Elliott	Texas	In fair condition; frame	To be retained; temporary.
Ellis	Montana	In fair condition; logs	Do.
Fetterman	Wyoming		To be abandoned.
Finn's Point	New Jersey		Do.
Foote	Maryland		Do.
Fort Point	California	In fair condition	To be retained; permanent.
Fred Steele	Wyoming	do	To be retained; temporary.
Gaines	Alabama		To be abandoned.
Garland	Colorado	Buildings of adobe on leased ground.	Do.
Gaston	California	In fair condition; of frame	Do.
Gibson	Indian Territory	In fair condition	To be retained; permanent.
Gorges	Maine		Do.
Grant	Arizona	New post	Do.
Gratiot	Michigan		To be abandoned.
Griswold	Connecticut		Do.
Hale	Dakota	In poor condition; of logs	To be retained; temporary.
Hall	Idaho	In fair condition; of frame and logs.	To be abandoned.
Halleck	Nevada	In fair condition; adobe, &c.	Do.
Hamilton	New York		To be retained; permanent.
Hays	Kansas	In poor condition; of frame	To be abandoned.
Huachuca	Arizona		To be retained; permanent.
Independence	Massachusetts		Do.
Jackson Barracks	Louisiana		Do.
Jackson	Georgia		To be abandoned.
Jackson	Louisiana		Do.
Jefferson	Florida		To be retained; permanent.
Johnston	North Carolina		Do.

Alphabetical list of the posts of the United States, &c.—Continued.

Names.	State or Territory.	General condition.	Disposition recommended.
Keogh	Montana	New post	To be retained; temporary.
Key West Barracks	Florida		To be retained; permanent.
Klamath	Oregon	Frame; fair condition	To be abandoned.
Knox	Maine		To be retained; permanent.
Lafayette	New York Harbor		Do.
Lapwai	Idaho	In fair condition; of frame and logs.	To be retained; temporary.
Laramie	Wyoming	In fair condition; of frame	Do.
Leavenworth (Fort)	Kansas		To be retained; permanent.
Leavenworth (Prison)	do		Do.
Lewis	Colorado		To be retained; temporary.
Little Rock Barracks	Arkansas		To be retained; permanent.
Livingston	Louisiana		To be abandoned.
Lowell	Arizona	In fair condition; of adobe	To be retained; temporary.
Lyon	Colorado	In fair condition; of frame and stone.	To be abandoned.
Mackinac	Michigan	do	To be retained; permanent.
Macomb	Louisiana		To be abandoned.
Macon	North Carolina		Do.
Madison Barracks	New York		To be retained; permanent.
Maginnis	Montana		To be retained; temporary.
Marcy	New Mexico		To be retained; permanent.
Marion	Florida		Do.
McClary	Maine		To be abandoned.
McDermit	Nevada	In good condition; of stone and adobe.	Do.
McDowell	Arizona	In fair condition; of adobe	To be retained; temporary.
McHenry	Maryland	In fair condition; of brick and frame.	To be retained; permanent.
McIntosh	Texas		Do.
McKavett	do		To be abandoned.
McKinney	Wyoming		To be retained; temporary.
Meade	Dakota	In good condition	To be retained; permanent.
Mifflin	Pennsylvania		To be abandoned.
Missoula	Montana	In good condition; of frame	To be retained; permanent.
Mojave	Arizona	In fair condition; of adobe	To be abandoned.
Monroe	Virginia		To be retained; permanent.
Montgomery	New York		Do.
Morgan	Alabama		Do.
Moultrie	South Carolina		Do.
Mt. Vernon Barracks	Alabama		Do.
Meyer	Virginia		To be retained; permanent.
Newport Barracks	Kentucky		Do.
Niagara	New York		Do.
Niobrara	Nebraska	In good condition; of adobe	To be retained; temporary.
North Fork Canadian River.	Indian Territory		To be abandoned.
Oglethorpe Barracks	Georgia		Do.
Omaha	Nebraska	Brick and frame; old and decayed.	To be retained; permanent.
Ontario	New York	In fair condition	Do.
Pembina	Dakota	In poor condition	Do.
Phœnix	Massachusetts		To be abandoned.
Pickens	Florida		To be retained; permanent.
Pike	Louisiana		To be abandoned.
Plattsburg Barracks	New York	In fair condition; of stone, &c.	Do.
Point San José	California	In fair condition; of frame	To be retained; temporary.
Popham	Maine		To be retained; permanent.
Poplar River	Montana	In fair condition; of pickets	To be retained; temporary.
Porter	New York	In fair condition; of stone, brick, &c.	To be abandoned.
Preble	Maine		To be retained; permanent.
Presidio of San Francisco.	California	In good condition; of adobe, frame, &c.	Do.
Randall	Dakota		To be retained; temporary.
Reno	Indian Territory	In fair condition; of frame	Do.
Pulaski	Georgia		To be retained; permanent.
Riley	Kansas	In fair condition; of stone	Do.
Ringgold	Texas		To be retained; temporary.
Robinson	Nebraska	In fair condition; adobe, brick, &c.	Do.
San Antonio	Texas		To be retained; permanent.
Sanders	Wyoming		To be abandoned.
San Diego Barracks	California	In fair condition	To be retained; permanent.
Sandy Hook	New Jersey		Do.
Scammel	Maine		Do.
Schuyler	New York		Do.
Selden	New Mexico		To be abandoned.
Sewell	Massachusetts		Do.
Shaw	Montana	In poor condition	To be retained; temporary.

Alphabetical list of the posts of the United States, &c.—Continued.

Names.	State or Territory.	General condition.	Disposition recommended.
Ship Island	Mississippi		To be retained; permanent.
Sidney	Nebraska	In fair condition	To be retained; temporary.
Sill	Indian Territory	do	To be retained; permanent.
Sisseton	Dakota	In fair condition; of frame, logs, &c.	To be retained; temporary.
Snelling	Minnesota	Undergoing improvement	To be retained; permanent.
Snake River, camp on	Wyoming		To be abandoned.
Standish	Massachusetts		Do.
Spokane	Washington	In fair condition; of logs, &c.	To be retained; temporary.
Stanton	New Mexico	In poor condition; of adobe	Do.
Saint Augustine	Florida		To be retained; permanent.
Stevens	Oregon	In fair condition; of frame	Do.
Stevenson	Dakota	In fair condition; of adobe	Temporary.
Stockton	Texas	On leased ground	To be abandoned.
Saint Philip	Louisiana		To be retained; permanent.
Sullivan	Maine		Do.
Sully	Dakota	In fair condition; of frame and logs.	Do.
Sumter	South Carolina		Do.
Supply	Indian Territory	In fair condition; of frame and logs.	To be retained: temporary.
Taylor	Florida		To be retained; permanent.
Thomas	Arizona		To be retained; temporary.
Thornburg	Utah		
Totten	Dakota	In good condition; of brick, &c.	To be retained; permanent.
Townsend	Washington	In fair condition; of frame, &c.	Do.
Trumbull	Connecticut	In fair condition; of frame, stone, &c.	Do.
Uncompahgre	Colorado	In poor condition; of pickets.	To be retained; temporary.
Union	New Mexico	In fair condition	Do.
Vancouver Barracks	Washington	In fair condition; of frame logs, &c.	To be retained; permanent.
Verde	Arizona	In fair condition; of adobe, &c.	To be retained; temporary.
Wadsworth	New York	In good condition; of frame	To be retained; permanent.
Wallace	Kansas		To be abandoned.
Walla Walla	Washington	In fair condition	To be retained; permanent.
Warren	Massachusetts		Do.
Washakie	Wyoming	Condition poor; of logs, adobe, &c.	To be retained; temporary.
Washington Barracks	District Columbia		To be retained; permanent.
Washington	Maryland		Do.
Wayne	Michigan		Do.
Whipple Barracks	Arizona	In fair condition; of frame	To be retained; temporary.
White River, camp on	Colorado		To be abandoned.
Wingate	New Mexico		To be retained; permanent.
Winthrop	Massachusetts		Do.
Wolcott	Rhode Island		Do.
Wood	New York Harbor		Do.
Yates	Dakota		To be retained; temporary.
Yuma	California	In fair condition; brick	To be abandoned.

W. T. SHERMAN,
General.

HEADQUARTERS OF THE ARMY,
Washington, D. C., October 16, 1882.

QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., September 26, 1882.

SIR: On August 9, 1882, I was directed by the Secretary, in order to obviate the necessity of submitting to Congress during the session what had heretofore been called "special estimates," to submit with my annual estimates any and all items for military posts, buildings, and roads which I might deem actually necessary, due regard being had to the interests and economy of the public service. Based upon these instructions, I immediately caused to be gathered together the following projects which had during the last session been recommended by the Secretary, but for which Congress had failed to appropriate, *i. e.:*

Fort Lewis, Colo	$40,000 00
Fort Selden, N. Mex	251,451 69
New Fort Colville, Wash	40,000 00

San Antonio depot approaches	$3,500 00
Jefferson Barracks, Mo	24,938 44
Fort Monroe, Va	16,830 00
Boise Barracks, Idaho	10,143 44
Fort Canby, Wash	9,859 48
Fort Cœur d'Alene, Idaho	6,560 25
Fort Lapwai, Idaho	7,800 00
Fort Klamath, Oreg	15,221 13
Fort Walla Walla, Wash	38,163 62
Vancouver Barracks, Wash	90,519 61
Fort Halleck, Nev	7,500 00
Fort Thornburg, Utah	84,000 00
Fort Huachuca, Ariz	52,000 00
Fort Grant, Ariz	62,000 00
Fort Thomas, Ariz	30,000 00
Fort Apache, Ariz	61,000 00
The General of the Army on May 18, 1882, having recommended, which was approved by the Secretary, that on receipt of proper plans and estimates, that for new buildings at Fort Bliss, Texas, Congress be asked for $100,000, I included that item also	100,000 00
And General Hancock having also reported need of barracks and quarters improvements at Little Rock Barracks, Ark., I further added an item of	33,160 00
Making a total of	984,647 66

Estimates for which in due form I submitted on the 20th instant. Attention is invited to the original estimate to complete Fort Bliss, which was $40,290.

The General of the Army and Secretary of War believed it in May last to be the interest of the service to expend, if Congress would appropriate, $100,000, and that General Pope now reports that if Selden is rebuilt, that all that will be needed to put Fort Bliss in condition to accommodate two companies is $20,000.

On the 24th August the Secretary, after a personal interview with Maj. J. M. Moore, who is in immediate change of the barracks and quarters branch of this office, somewhat changed the phraseology of his previous orders, upon which this office telegraphed to the different chief quartermasters for a list of all needed projects within their respective divisions, limiting time of preparation of estimates to September 15, as it was necessary that all annual estimates of this office be completed and submitted to the War Department by the 20th instant.

The time was too brief to admit of any extended details, and the result of the call will be found in the papers herewith, which were not received in time to be examined and tabulated before submitting the regular annual estimates.

I invite attention to the projects embraced in the inclosed memorandum marked A to S, which are essentially the same, with two or three exceptions, as those heretofore submitted.

Regarding some of the crude estimates itemized in the memorandum, I would call special attention, *i. e.*:

Fort Davis, Tex	$83,250
San Antonio, Tex	291,200
Fort Snelling, Minn	200,000
Fort Omaha, Nebr	162,892

The information regarding the absolute need of these heavy expenditures in this office is meager, but probably the Secretary of War or the General of the Army may have other data which has not as yet reached the Quartermaster-General.

For Fort Brady, Mich., estimate is made for	$49,318
For Fort Montgomery, N. Y., estimate is made for	55,010
For Fort Niagara, N. Y., estimate is made for	23,271

The correspondence, &c., regarding these three projects has already been laid before Congress, and is published in House Ex. Doc. 45, Forty-sixth Congress, second session.

For Fort Monroe, Va., estimate is made for $52,830. This covers the item of $30,000 for a school and library building heretofore called for (see Estimate Book for 1883, page 150); $16,830 is referred to in Senate Ex. Doc. 95, Forty-seventh Congress, first session; while $6,000 is for repairs called for on the annual report of inspection, &c.

For Washington Barracks, D. C., estimate is made for $27,860. This covers the following work: Converting timber-shed into barracks, $10,500; remodeling south store into three sets of officers' quarters, $7,200; light-battery stable, $6,660; gun-shed, $3,500.

In an estimate of $32,827 for repairs and alterations, the General of the Army on July

14, 1882, recommended the first item, *i. e.*, $10,500, and a further sum of $9,500 for alterations and repairs most needed, but as it was subsequently found that neither the allotment nor contingent fund would bear so large an expenditure only $3,000 was authorized.

The difference in estimates for Huachuca, Grant, Apache, and Thomas is accounted for by the fact that the sums reported as needed were originally approximated by department and division commanders, while study and details gave other figures.

The estimates, correspondence, tabulated statement, and this report are submitted for the information of the General of the Army and honorable Secretary of War, and for such further instructions, if any, that they may have or consider necessary to issue in the premises.

Very respectfully, your obedient servant,

RUFUS INGALLS,
Quartermaster-General, Brevet Major-General, U. S. A.

The ADJUTANT-GENERAL, U. S. A.,
Washington, D. C.

Estimates of appropriations required for the service of the fiscal year ending June 30, 1884, *by the Quartermaster's Department, U. S. Army.*

Detailed objects of expenditure, and explanations.	Total amount to be appropriated under each head of appropriation.
Fort Lewis, Colo. Recommended by the Secretary of War to the President, March 25, 1882. (See House Ex. Doc. 146, Forty-seventh Congress, first session.) (Rev. Stat., pp. 206-7, sec. 1136.) Submitted	$40,000 00
Fort Selden, N. Mex. (See Senate Ex. Doc. 125, Forty-seventh Congress, first session.) Submitted	251,451 60
Fort Colville, Wash. (See Senate Ex. Doc. 1, Forty-seventh Congress, first session.) Submitted	40,000 00
San Antonio Depot, Tex. Recommended by the Secretary of War to the chairman of the House Committee on Appropriations, May 3, 1882. Submitted	3,500 00
Jefferson Barracks, Mo. Recommended by the Secretary of War to the President, June 14, 1882. (See House Ex. Doc. 37, Forty-seventh Congress, first session.) Submitted	24,938 44
Fort Monroe, Va. Submitted	16,830 00
Boisé Barracks, Idaho. Submitted	10,143 44
Fort Canby, Wash. Submitted	9,859 48
Fort Cœur d'Alene, Idaho. Submitted	6,500 25
Fort Lapwai, Idaho. Submitted	7,800 00
Fort Klamath, Oreg. Submitted	15,221 13
Fort Walla Walla, Wash. Submitted	38,163 62
Vancouver Barracks, Wash. Submitted	90,519 61
Fort Halleck, Nev. Submitted (See Senate Ex. Doc. 95, Forty-seventh Congress, first session.)	7,500 00
Fort Thornburgh, Utah. (See House Ex. Doc. 90, Forty-seventh Congress, first session.) Submitted	84,000 00
Fort Huachuca, Ariz. Submitted	52,000 00
Fort Grant, Ariz. Submitted	62,000 00
Fort Thomas, Ariz. Submitted	30,000 00
Fort Apache, Ariz. Submitted (See Senate Ex. Doc. 187, Forty-seventh Congress, first session.)	61,000 00
Fort Bliss, Tex. New buildings. Approved by Secretary of War, and plans now being prepared by division quartermaster. Submitted	100,000 00
Little Rock Barracks, Ark. Repairs of existing buildings. Recommended by Major-General Hancock, and approved by the Quartermaster-General. Submitted	33,160 00
	984,647 66

NOTE.—This estimate is submitted in compliance with instructions contained in letter from War Department to the Quartermaster-General of 9th of August, 1882. Most of the projects have already received the approval of the Secretary of War, and have been favorably reported to Congress.

Respectfully submitted.

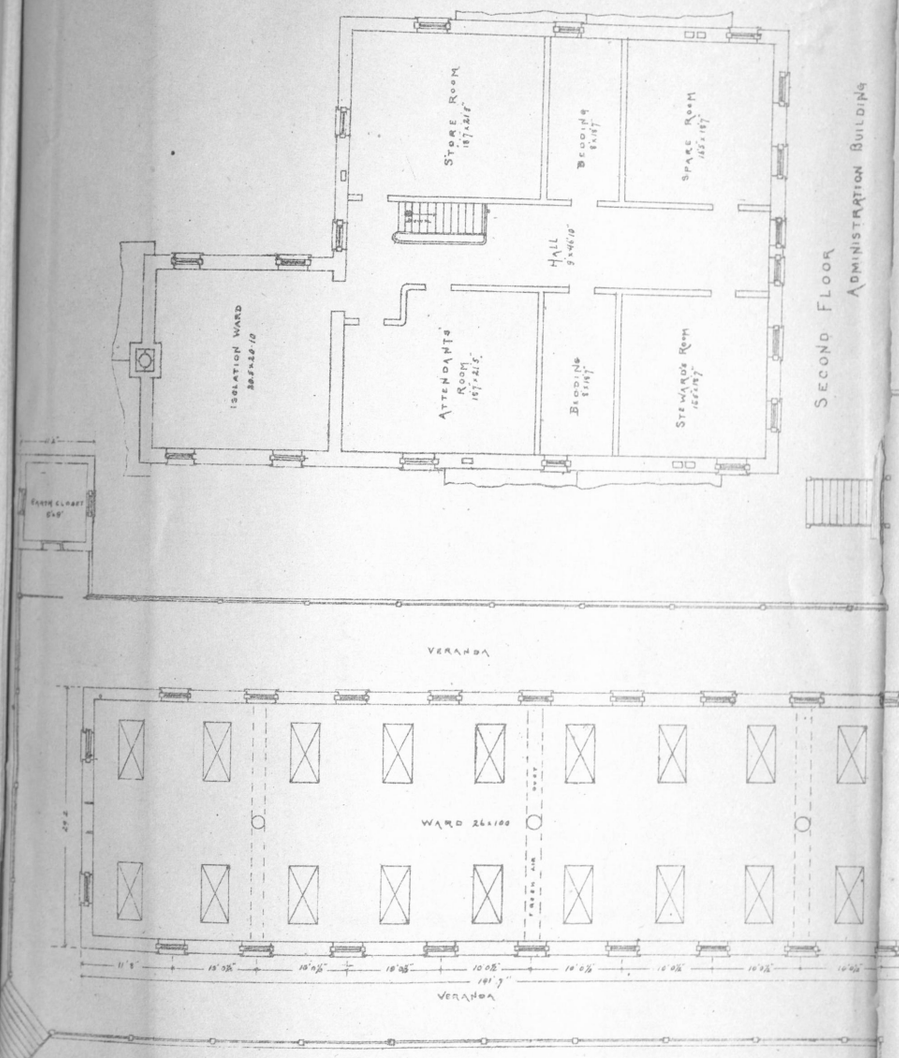
RUFUS INGALLS,
Quartermaster-General, Brevet Major-General, U. S. A.

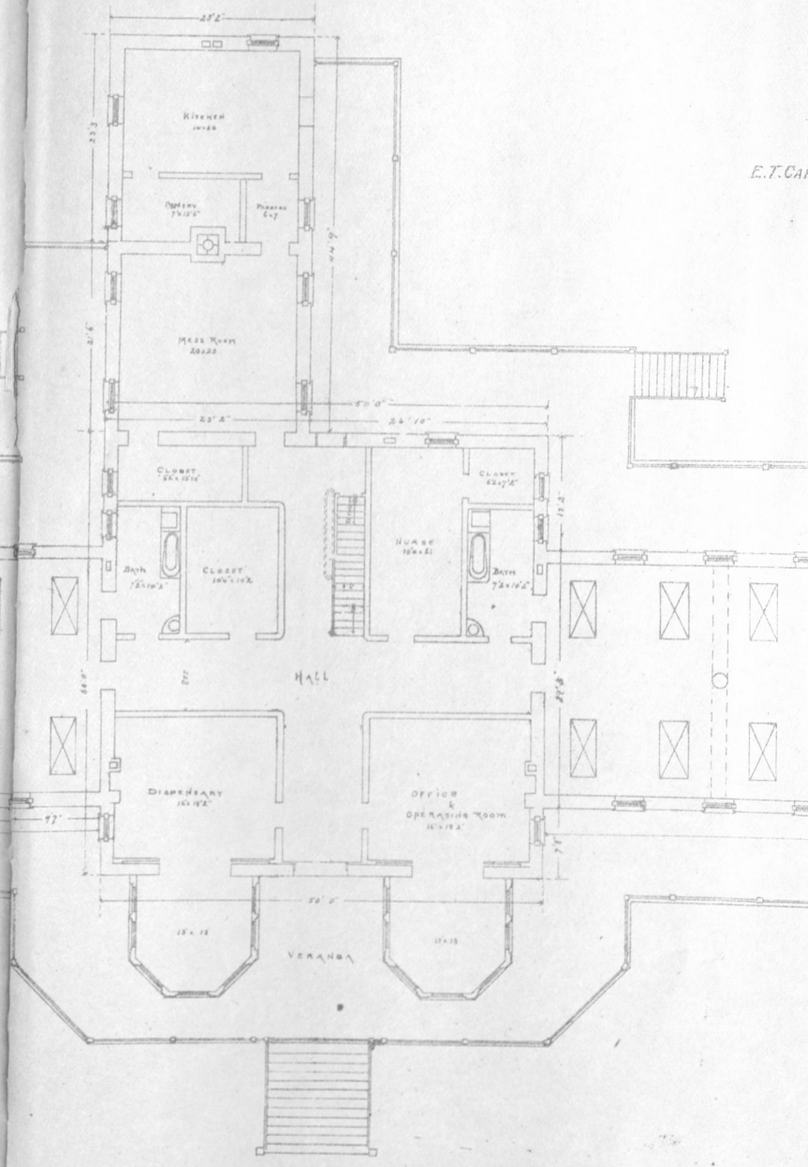
QUARTERMASTER-GENERAL'S OFFICE,
September 20, 1882.

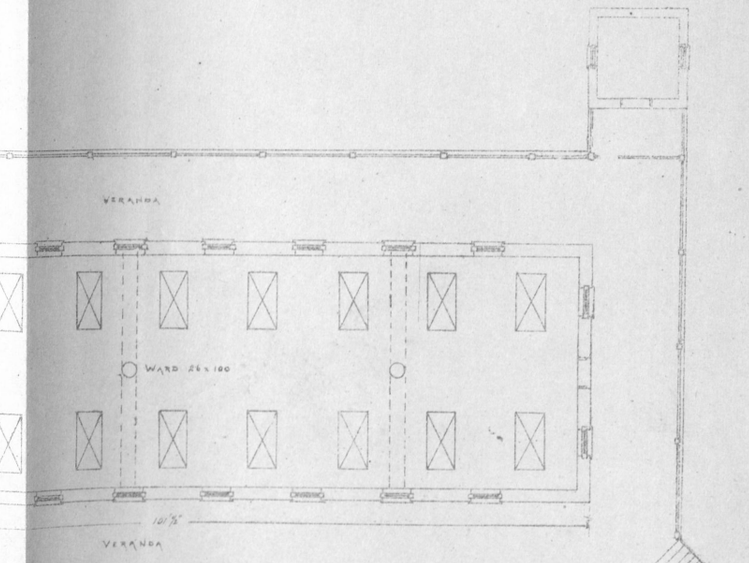
O

PLAN
FOR A
POST HOSPITAL
OF 40 BEDS

E.T. CARR ARCHITECT. FORT LEAVENWORTH KANSAS

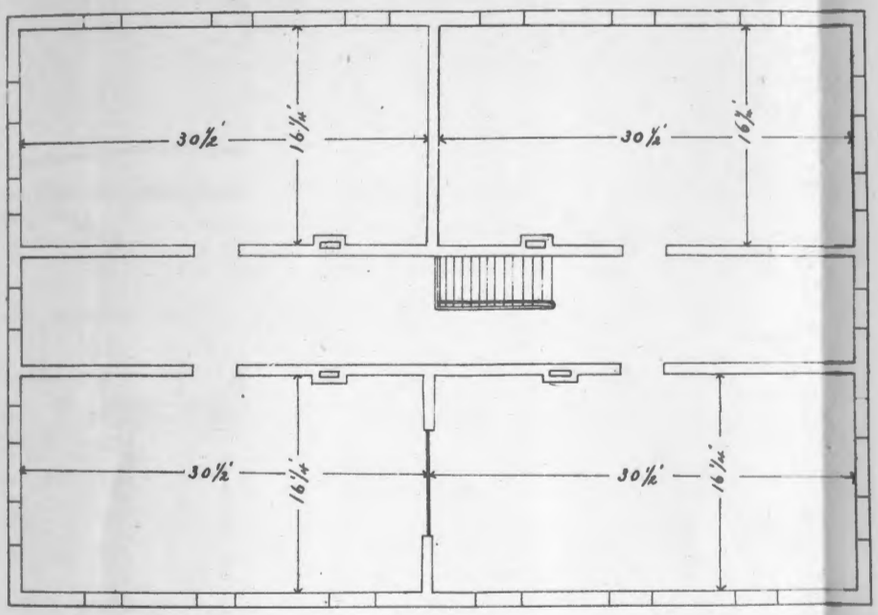




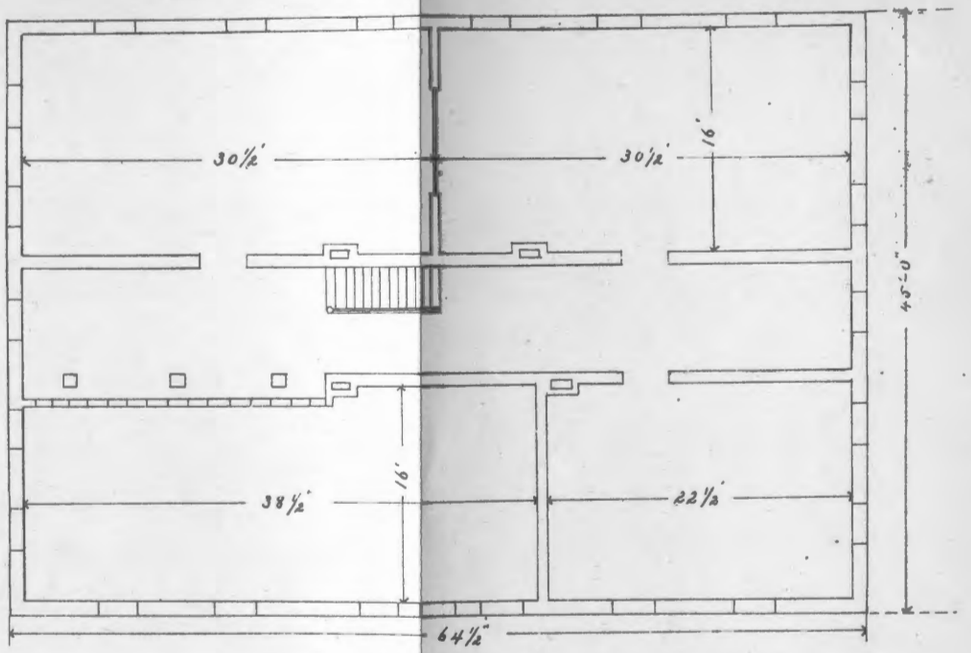


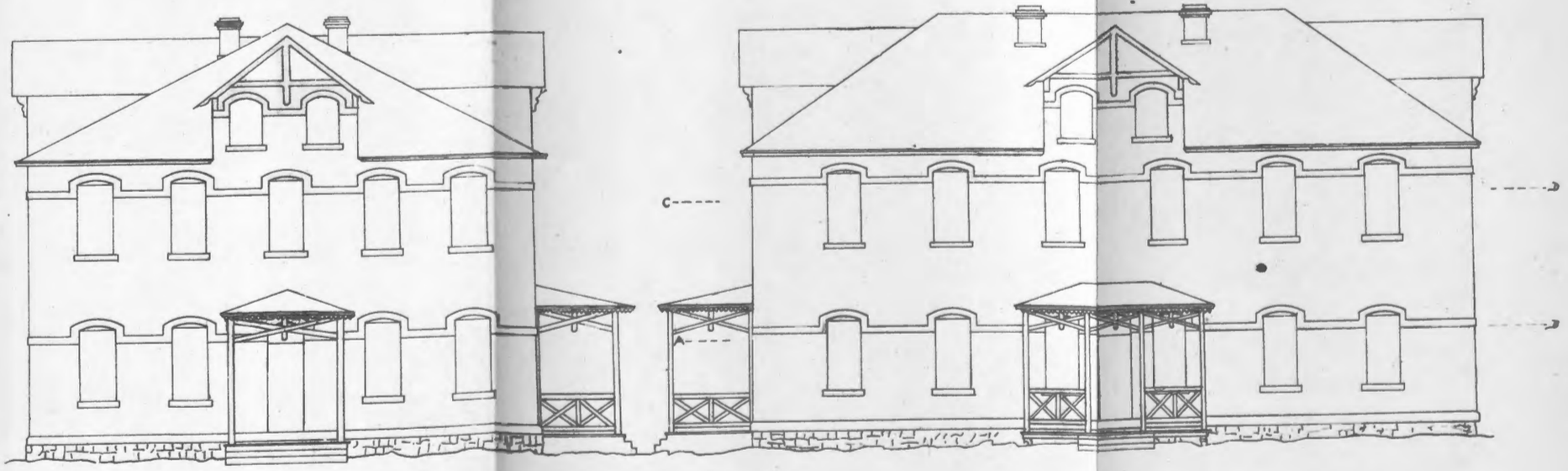
H.EX. 61, 2, 47.

Second Floor (CD)



First Floor (AB)





H.EX.61,2,47

End Elevation

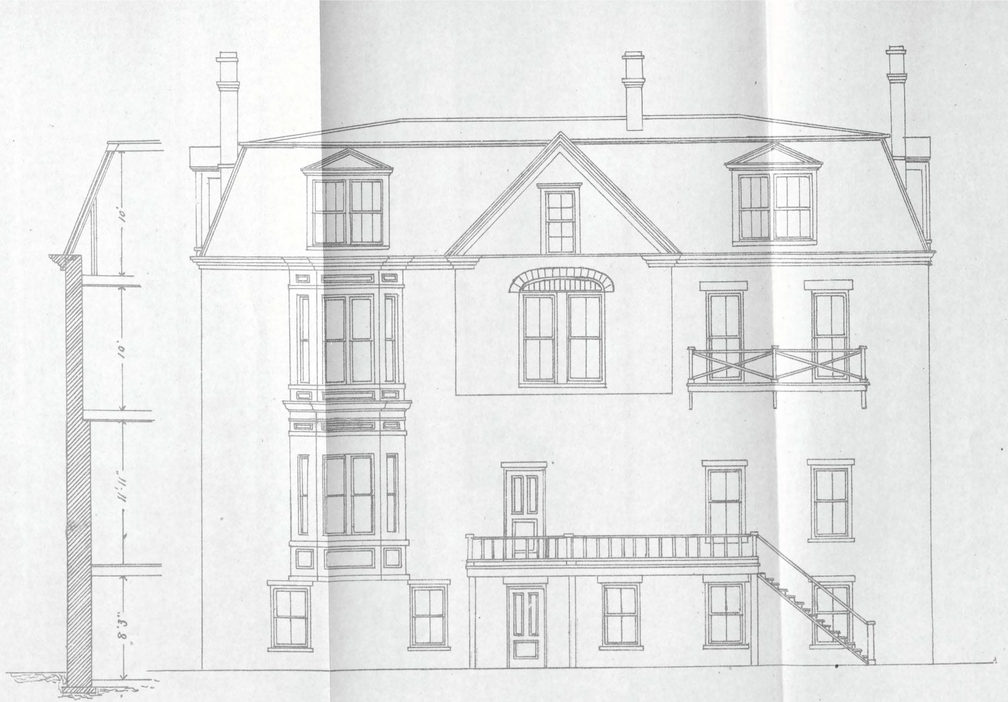
Scale 1' ½' 0

Side Elevation

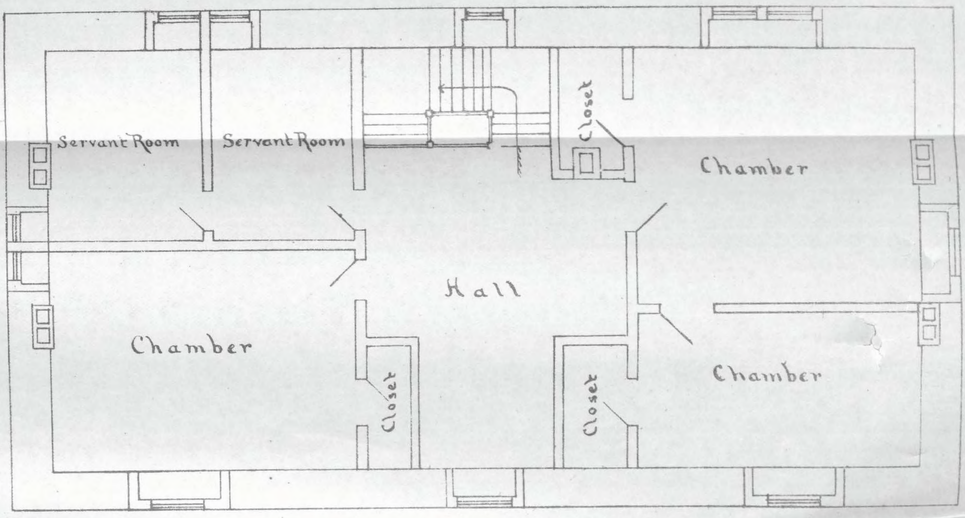
H.EX.61.2.47.

FRONT-ELEVATION

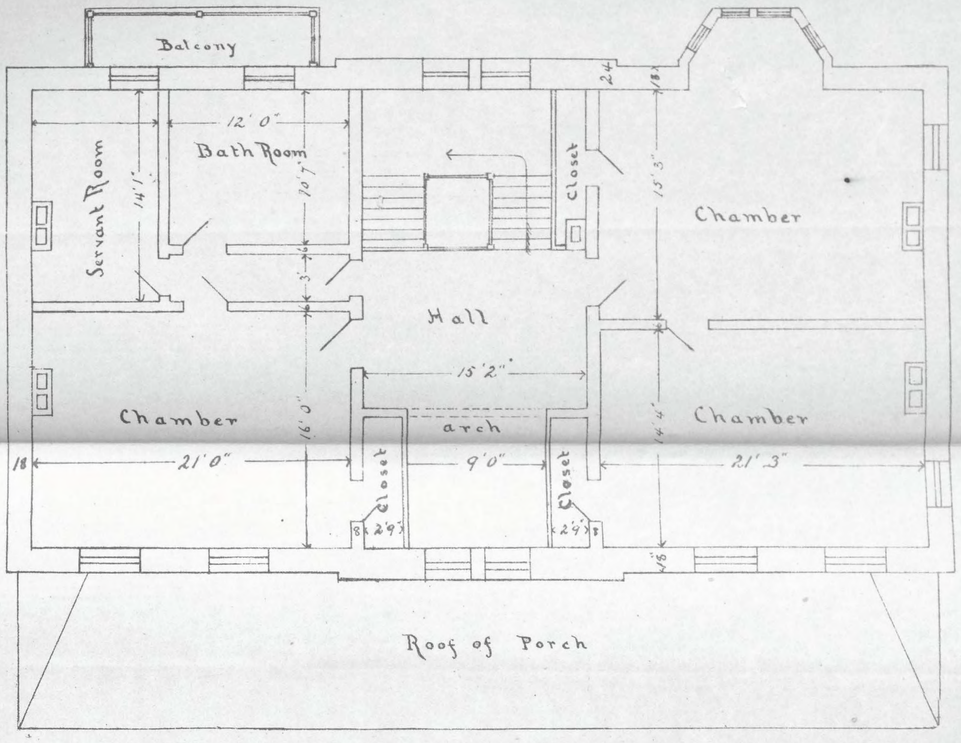
SIDE-ELEVATION



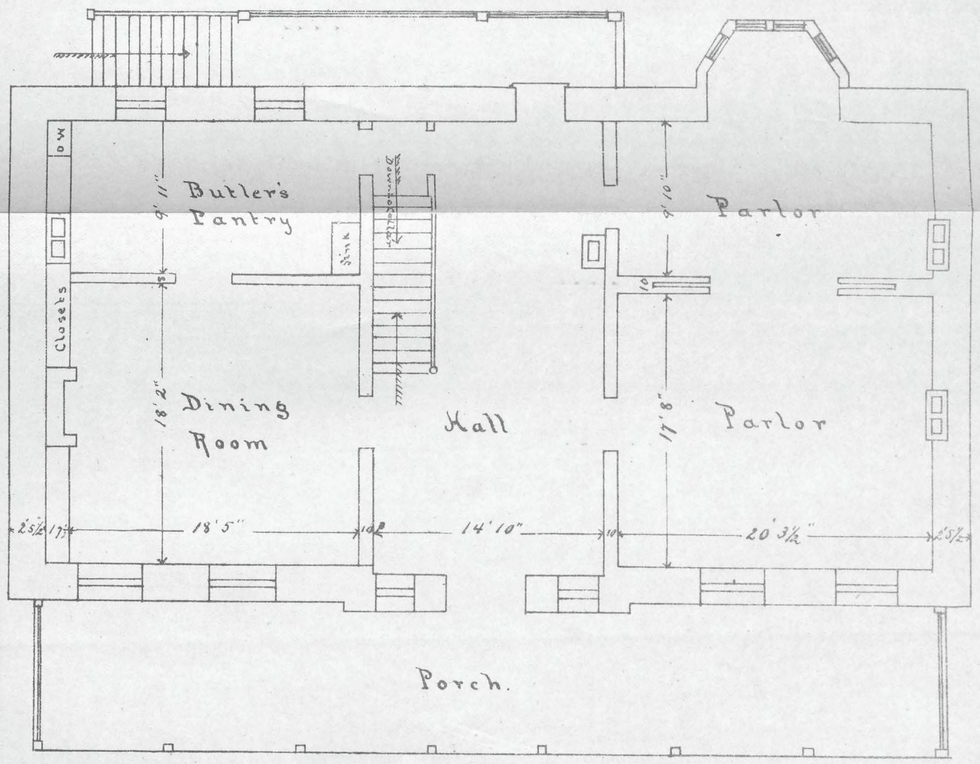
REAR-ELEVATION



ATTIC-PLAN



SECOND FLOOR PLAN

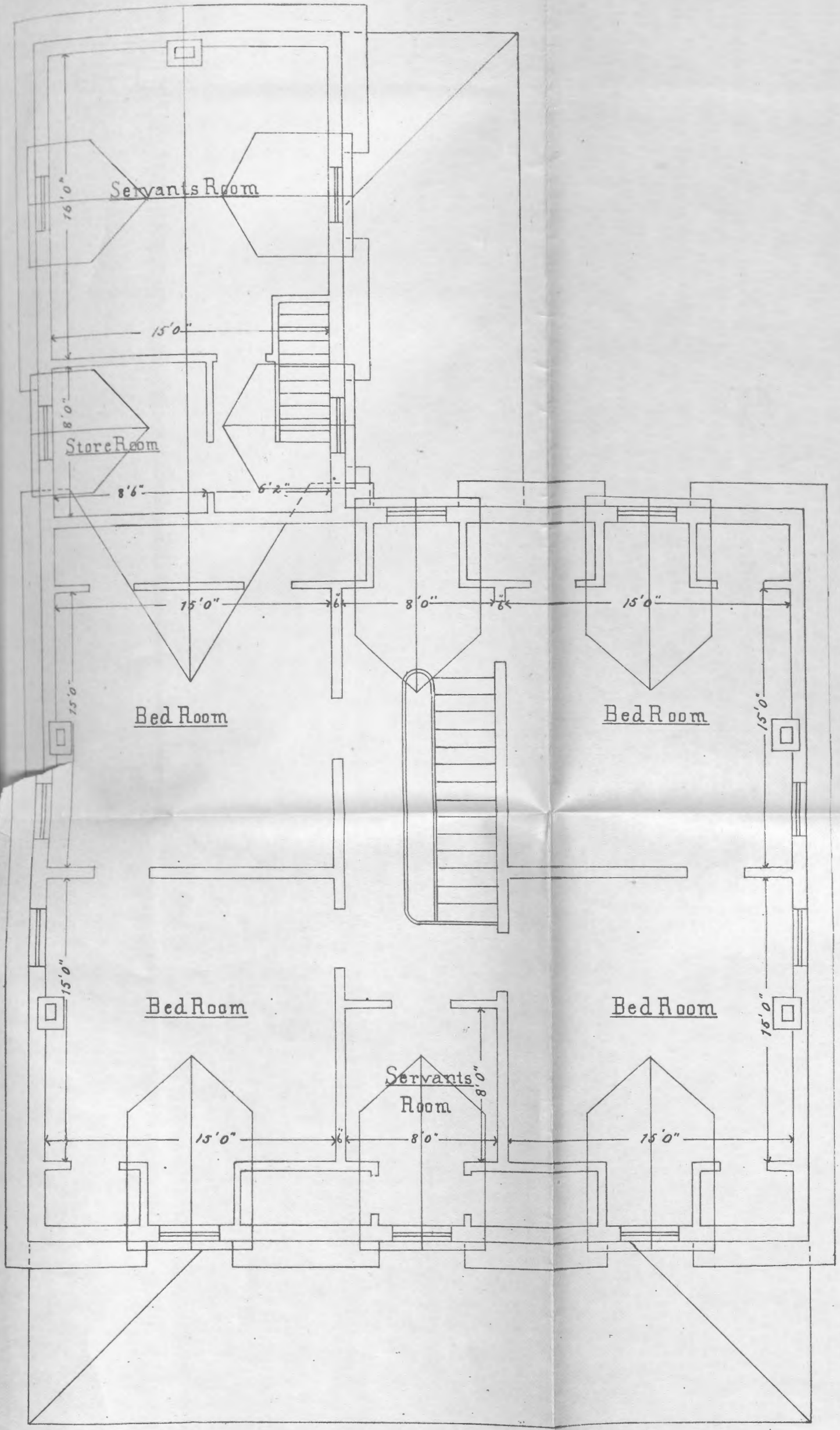


FIRST FLOOR PLAN

H. EX. 61, 2, 47.

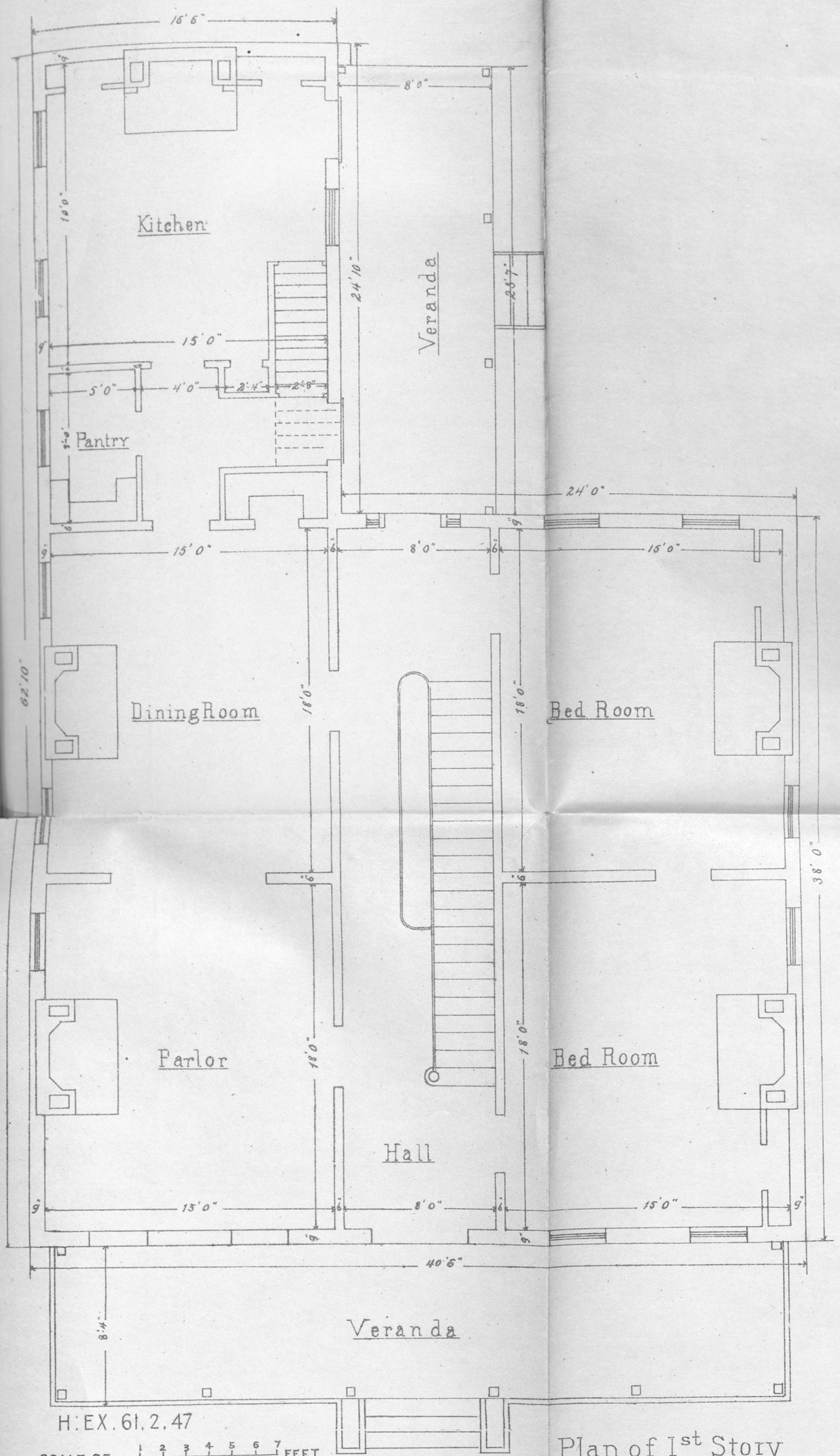
FRONT ELEVATION

Scale 1 4 3 2



H. EX. 61, 2, 47.

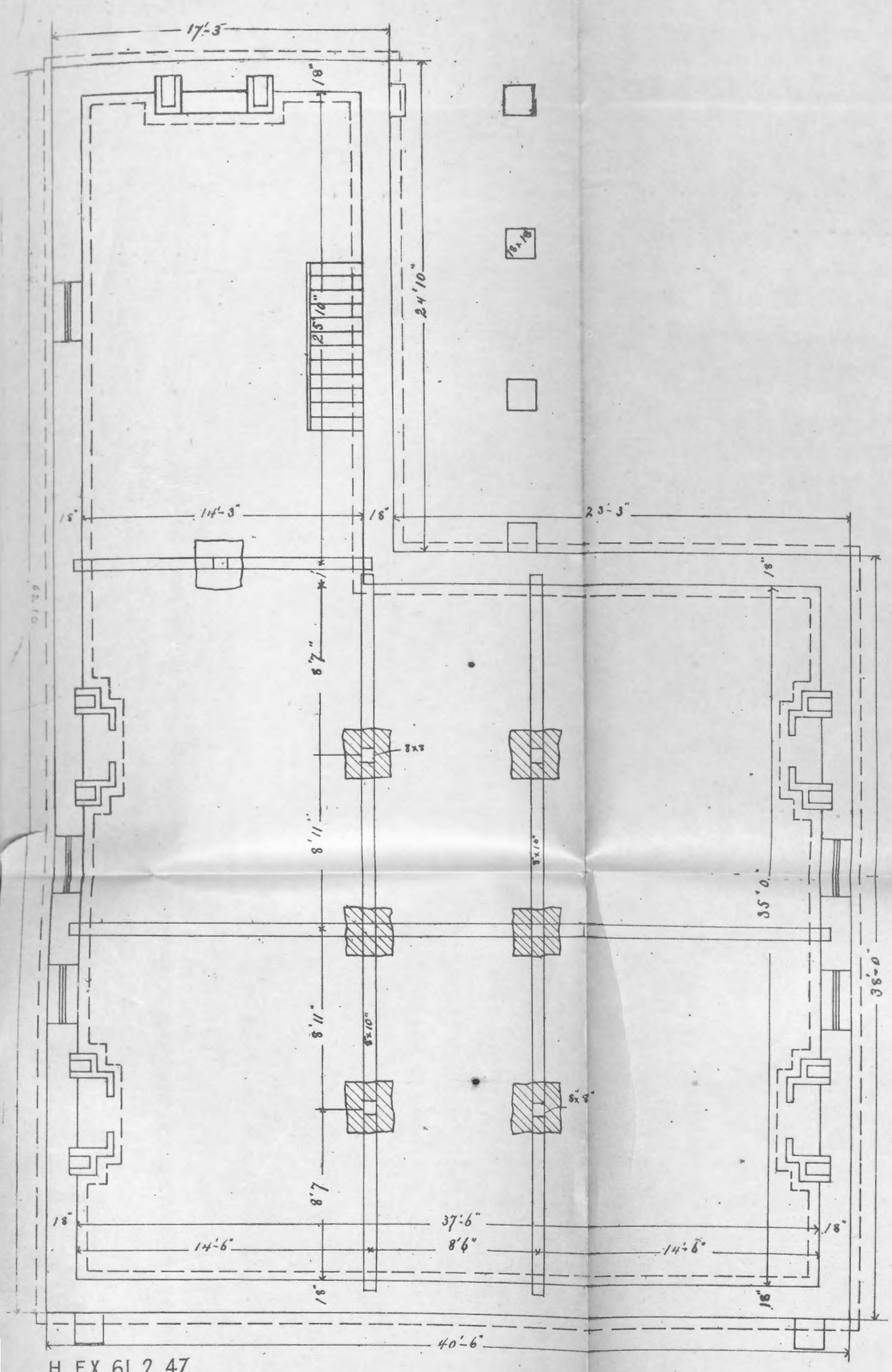
Plan of II nd Story SCALE OF 0 1 2 3 4 5 6 7 FEET.



H:EX.61.2.47

SCALE OF 1 2 3 4 5 6 7 FEET

Plan of 1st Story

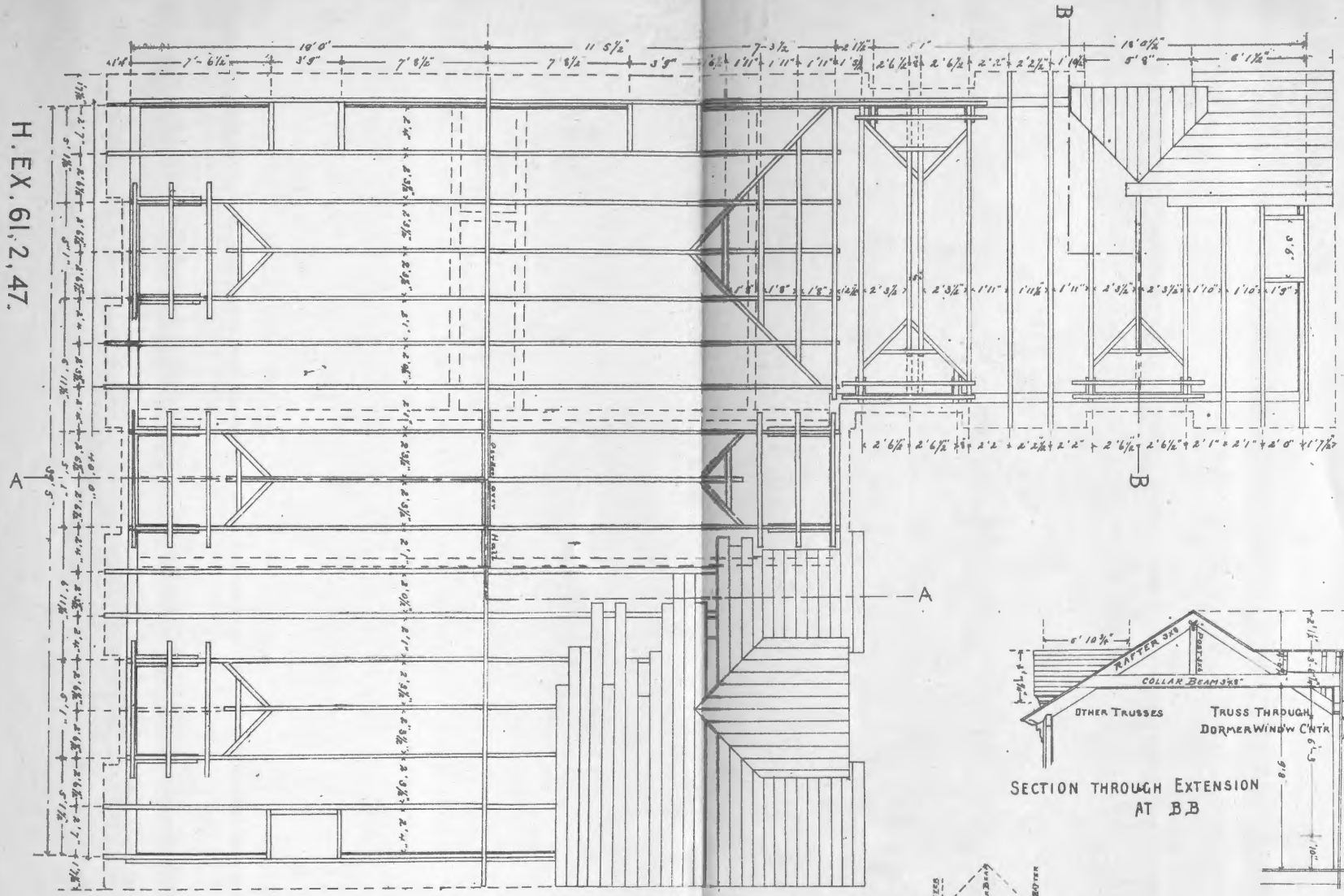


H. EX. 61, 2, 47.

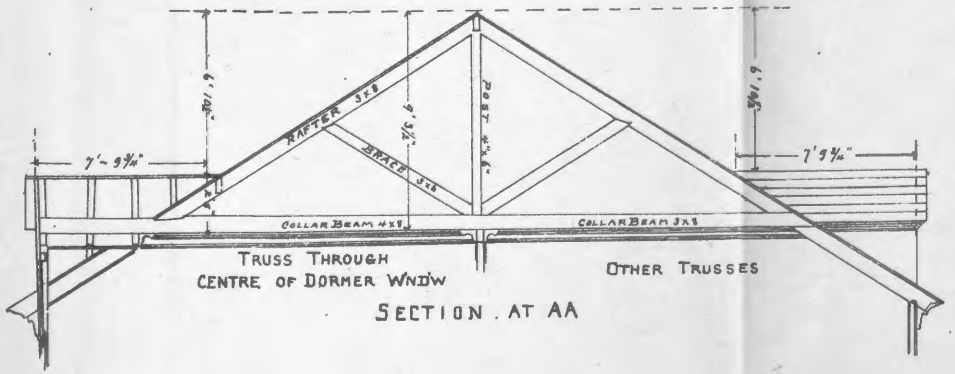
Cellar Plan SCALE OF 0 1 2 3 4 5 6 7 FEET

H. EX. 61, 2, 47.

FRAMING PLAN OF ROOF



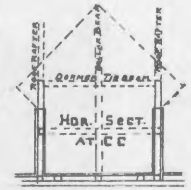
SECTION THROUGH EXTENSION AT B.B



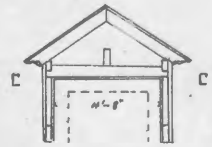
TRUSS THROUGH CENTRE OF DORMER WNDW

OTHER TRUSSES

SECTION . AT AA

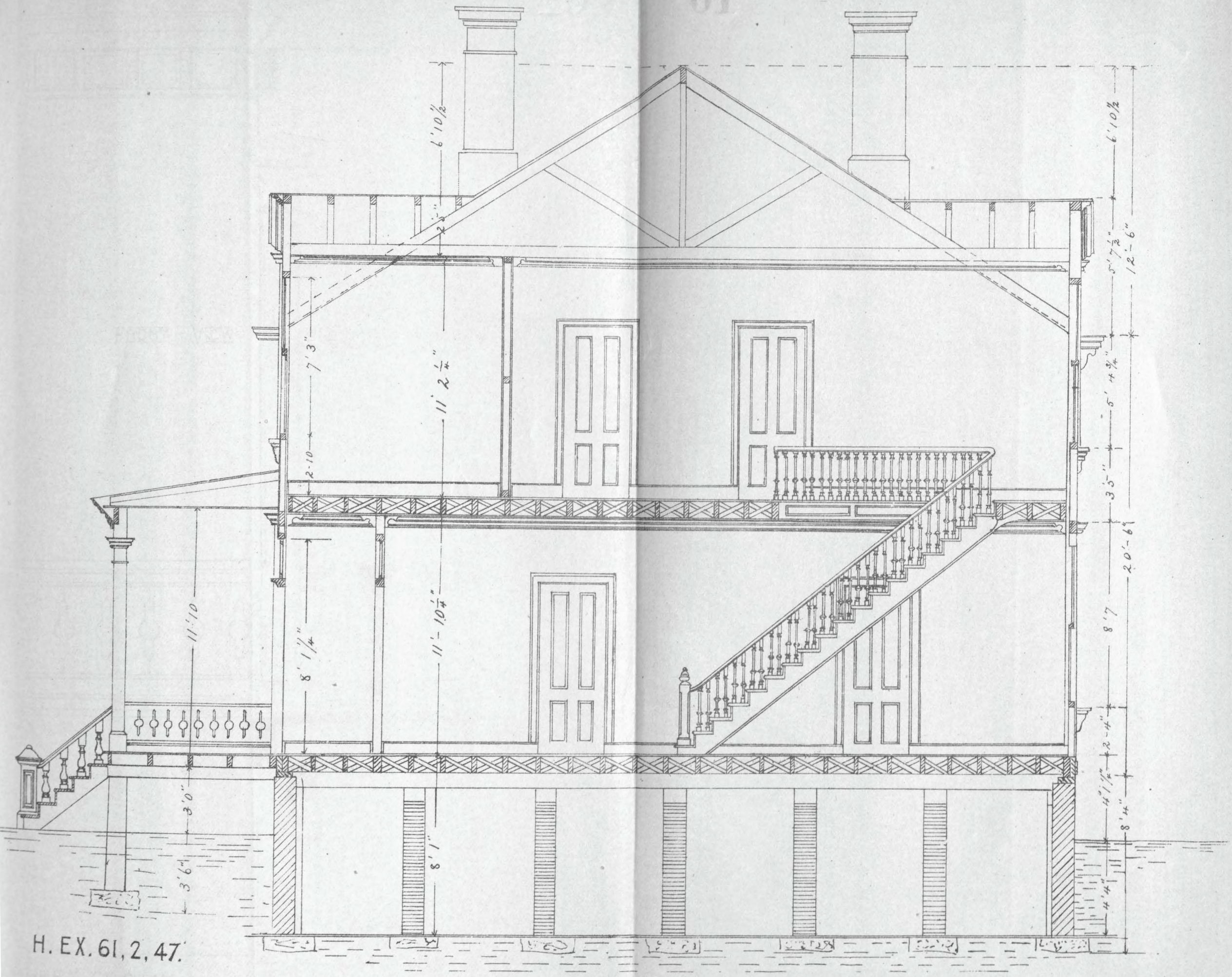


DORMER WINDOW



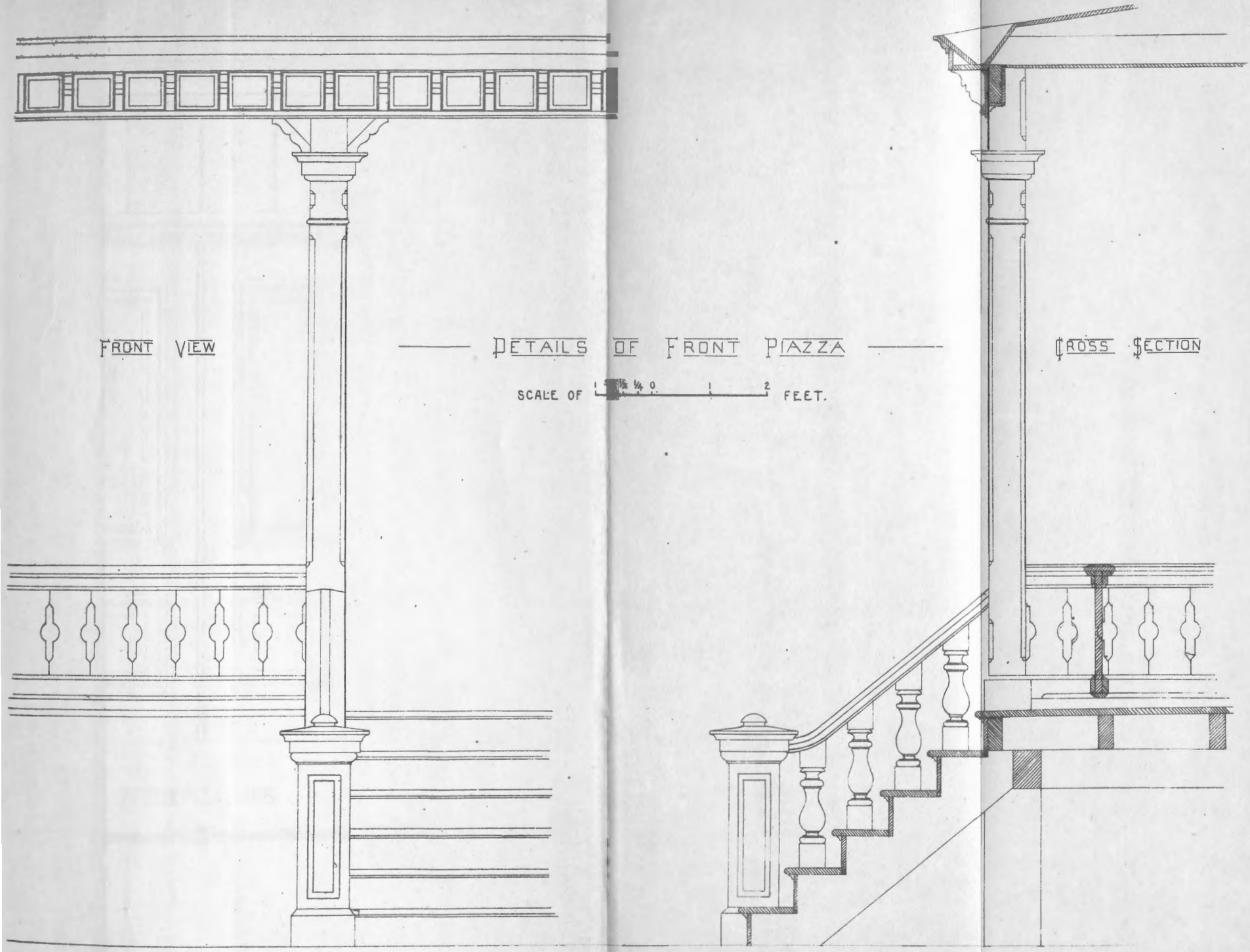
VERT. SECT.

FRONT VIEW



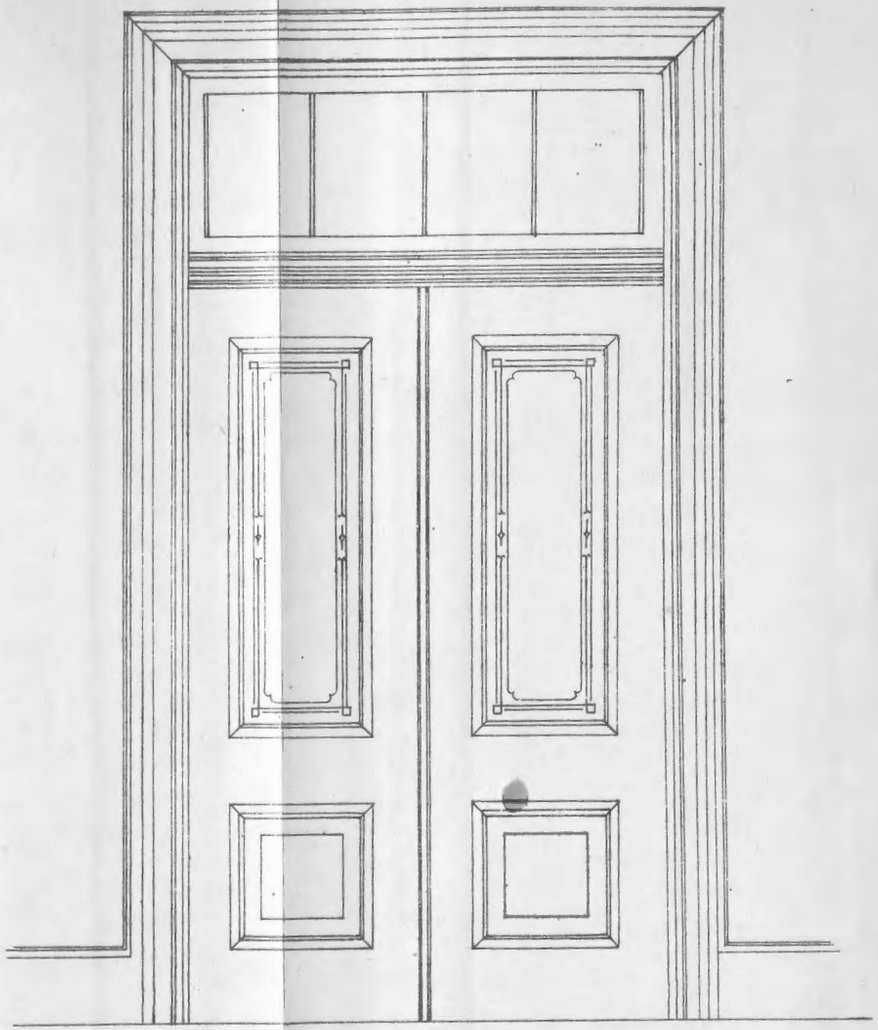
H. EX. 61, 2, 47.

SECTION AT AA


FRONT VIEW
DETAILS OF FRONT PIAZZA
CROSS SECTION
SCALE OF 0 1 2 FEET.

H. EX. 61, 2, 47.

FRONT DOOR



VESTIBULE DOOR

H. EX. 61, 2, 47.

DETAILS OF ENTRANCE DOORS

SCALE OF 0 1 2 3 FEET.